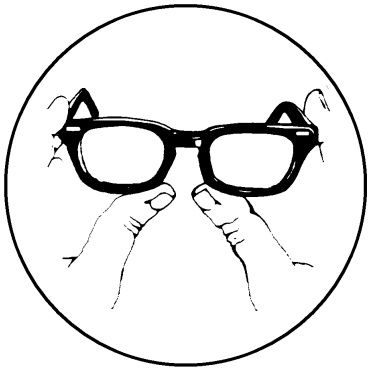
STP 8-91H14-SM-TG(P)

Draft

SOLDIER'S MANUAL AND TRAINER'S GUIDE



MOS 91H OPTICAL LABORATORY SPECIALIST

SKILL LEVELS 1/2/3/4

HEADQUARTERS, DEPARTMENT OF THE ARMY

REVIEW INSTRUCTIONS

This draft soldier's manual is made available for review purposes only. The final approved version of this manual will appear on the Reimer Training and Doctrine Digital Library.

Recommendations to improve this manual are encouraged. With each recommendation, tell why you feel the change is necessary.

If you have comments of a technical nature on the procedures for performing tasks contained in this manual, please provide them by e-mail to steve.ligon@cen.amedd.army.mil.

*SOLDIER TRAINING
PUBLICATION
No. 8-91H14-SM-TG(P)

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 2 April 2001

SOLDIER'S MANUAL and TRAINER'S GUIDE

MOS 91H

Soldier's Manual, Skill Levels 1/2/3/4 and Trainer's Guide, MOS 91H, Optical Laboratory Specialist

Skill Levels 1, 2, 3 and 4

TABLE OF CONTENTS

PAGE

*DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

PREFACE

This publication is for skill level 1, 2, 3, and 4 soldiers holding military occupational specialty (MOS) 91H and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and first-line supervisors should ensure soldiers holding MOS/SL 91H1/2/3/4 have access to this publication. It should be made available in the soldier's work area, unit learning center, and unit libraries.

This manual applies to both Active and Reserve Component soldiers.

The proponent of this publication is HQ, TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Academy of Health Sciences, ATTN: MCCS-HLD, 2250 Stanley Road, STE 326, Fort Sam Houston, TX 78234-6130.

CHAPTER 1

Introduction

1-1. General

This manual identifies the individual MOS training requirements for soldiers in MOS 91H. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to support the self-development and training of every soldier.

Use this manual with Soldier's Manuals of Common Tasks (STP 21-1-SMCT and STP 21-24-SMCT), Army Training and Evaluation Programs (ARTEPs), and FM 25-101, Battle Focused Training, to establish effective training plans and programs which integrate soldier, leader, and collective tasks.

1-2. Task Summaries

Task summaries contain information necessary to conduct training and evaluate soldier proficiency on tasks critical to the MOS. A separate task summary is provided for each critical task. These task summaries are, in effect, standardized training objectives which ensure that soldiers do not have to relearn a task on reassignment to a new unit. The format for the task summaries included in this manual is as follows:

- Task Title. The task title identifies the action to be performed.
- Task Number. A 10-digit number identifies each task or skill. Include this task number, along with task title, in any correspondence relating to the task.
- Conditions. The task conditions identify all the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime. This section identifies any environmental conditions that can alter task performance, such as visibility, temperature, and wind. This section also identifies any specific cues or events that trigger task performance.
- Standards. The task standards describe how well and to what level you must perform a task under wartime conditions. Standards are typically described in terms of accuracy, completeness, and/or speed.
- Performance Steps. This section includes a detailed outline of information on how to perform the task.
- Evaluation Preparation (when used). This subsection indicates necessary modifications to task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instruction that should be given to the soldier before evaluation.
- Performance Measures. This evaluation guide identifies the specific actions that the soldier must do to successfully complete the task. These actions are listed in a GO/NO-GO format for easy evaluation. Each evaluation guide contains a feedback statement that indicates the requirements for receiving a GO on the evaluation.
- References. This section identifies references that provide more detailed and thorough explanations of task performance requirements than that given in the task summary description.

Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert users to the possibility of immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

1-3. Soldier's Responsibilities

Each soldier is responsible for performing individual tasks which the first-line supervisor identifies based on the unit's METL. The soldier must perform the tasks to the standards listed in the SM. If a soldier has a question about how to do a task or which tasks in this manual he or she must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task or can direct the soldier to the appropriate training materials.

1-4. NCO Self-Development and the Soldier's Manual

Self-development is one of the key components of the leader development program. It is a planned progressive and sequential program followed by leaders to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the NCO, as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 350-59 for information on enrolling in this program and for a list of courses, or write to: AMEDDC&S, ATTN: MCCS-HSN, 2105 11TH STREET SUITE 4191, FORT SAM HOUSTON TX 78234-5064.

Unit learning centers are valuable resources for planning self-development programs. They can help access enlisted career maps, training support products, and extension training materials. A life cycle management diagram for MOS 91H soldiers is on page 1-3. You can check for updates to this diagram at http://das.cs.amedd.army.mil/ooc.htm (scroll down on left to LIFE CYCLE MANAGEMENT, select ENLISTED, and find the appropriate tab along the bottom.) This information, combined with the MOS Training Plan in Chapter 2, forms the career development model for the MOS.

1-5. Trainer's Responsibilities

Training soldier and leader tasks to standard and relating this training to collective mission-essential tasks is the NCO trainer's responsibility. Trainers use the steps below to plan and evaluate training.

Identify soldier and leader training requirements. The NCO determines which tasks soldiers need to train on using the commander's training strategy. The unit's METL and ARTEP and the MOS Training Plan (MTP) in the TG are sources for helping the trainer define the individual training needed.

MOS 42E (* 91H Effective 01 Oct 01)
OPTICAL LABORATORY SPECIALIST
CAREER/TRAINING LIFE CYCLE

RANK	AMEDD Course NR	TRAINING	LENGTH	LOCATION	ATTENDANCE REQUIREMENT	Self-Development Course NR	SELF-DEVELOPMENT	LENGTH	LOCATION	ATTENDANCE REQUIREMENT
E1 - E5		Basic Combat Training Course	9 wks	Ft. LW Ft. Sill Ft. Jackson Ft. Benning	IET					
					IET		**Army Correspondence Course Program**			
	311-42E10	Optical Lab Spec 42E10	24 wks	ITRO - VA	IET/MOS					
		PLDC	4 wks	Multiple sites	Leadership	MD0010	Basic Medical Terminology		Correspondence	Optional
						MD0400	Mobilization for AMEDD Personnel		Correspondence	Optional
						MD1210	ASMART		Correspondence	Sustainment
	6-8-C40	BNCOC 42E30	7 wks 1 day	FSH, TX	Leadership					
		BASELINE	**REQUIRED**	**RECOMMENDED**	**PROFIS**					
		Basic Trauma Life Support (BTLS)	X							
		Cardio Pulmonary Resuscitation (CPR)	X							
	6H-F28/322-F28	Field Management of Chemical & Biological Casualties (FMCBC)			X(TOE Only)					
		Emergency Medical Training (EMT)-I		X			Combat Life Saver (CLS)		Unit Training	Just in Time
E6 - E9		**Instructor Courses**								
	5K-F3/520-F3	Faculty Development (FDC/FDCC)	10 days	AHS, FSH, TX	Just in time SQI-H					
	5K-F6/520-F6	Small Group Instruction Training	5 days	AHS, FSH, TX	Just in time					
		Master Fitness Trainer	2 wks	Multiple Sites	Just in time ASI P5					
		Recruiter	6 wks	USAREC	Just in time					
		Drill Sgt School	9 wks	Multiple Sites	Just in time SQI-X					
	6-8-C42	ANCOC (SL4)	6 wks	FSH, TX	Leadership					
		First Sergeant Course	5 wks	USASMA	Just in time SQI-M		**PPSCP**			
		SGM Course	9 months	USASMA	Just in time MEL-A	300-A0704	75/71 Personnel/Retention Legal/EO	4 days	SA,TX	Just in Time
		CSM Course	1 wk	USASMA	Just in time/leadership	300-A0710	Medical Logistics Enlisted Supervisors Short Course	4 days	SA, TX	Just in Time
		Battle Staff	6 wks, 2 days	USASMA	Just in time - ASI 2S	340-A0715	MEDCOM CSM/SGM NCO Short Course	4 days	SA, TX	Leadership
						340-A0743	CSM/SGM SR NCO Course	4 days	Landstuhl, Germany	Leadership

Note: Converts to MOS 91B at the E8 level; * Becomes 91W at MSG 01 Oct 01.
Expert Field Medical Badge and DEPMEDS if assigned PROFIS

Plan the training. Training for specific tasks can usually be integrated or conducted concurrently with other training or during "slack periods." The unit's ARTEP can assist in identifying soldier and leader tasks which can be trained and evaluated concurrently with collective task training and evaluation.

Gather the training references and materials. The SM task summary lists all references which can assist the trainer in preparing for the training of that task.

Determine risk assessment and identify safety concerns. Analyze the risk involved in training a specific task under the current conditions at the time of scheduled training. Ensure that your training preparation takes into account those cautions, warnings, and dangers associated with each task.

Train each soldier. Show the soldier how the task is done to standard, and explain step-by-step how to do the task. Give each soldier one chance to do the task step-by-step.

Emphasize training in mission-oriented protective posture (MOPP) level 4 clothing. Soldiers have difficulty performing even the very simple tasks in a nuclear/chemical environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so that they are able to perform critical wartime tasks to standards under nuclear/chemical environment.

Check each soldier. Evaluate how well each soldier performs the tasks in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during the conduct of unit collective tasks. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluations of tasks critical to the unit's mission. Use the information in the MTP as a guide to determine how often to train the soldier on each task to ensure that soldiers sustain proficiency.

Record the results. The leader book referred to in FM 25-101, appendix B, is used to record task performance and gives the leader total flexibility on the method of recording training. The trainer may use DA Forms 5164-R (Hands-On Evaluation) and 5165-R (Field Expedient Squad Book) as part of the leader book. The forms are optional and locally reproducible. STP 21-24-SMCT contains a copy of the forms and instructions for their use.

Retrain and evaluate. Work with each soldier until he or she can perform the task to specific SM standards.

1-6. Training Tips for the Trainer

Prepare yourself.

Get training guidance from your chain of command on when to train, which soldiers to train, availability of resources, and a training site.

Get the training objective (task, conditions, and standards) from the task summary in this manual.

Ensure you can do the task. Review the task summary and the references in the reference section. Practice doing the task or, if necessary, have someone train you on the task.

Choose a training method.

Prepare a training outline consisting of informal notes on what you want to cover during your training session.

Practice your training presentation.

Prepare the resources.

Obtain the required resources identified in the conditions statement for each task.

Gather equipment and ensure it is operational.

Coordinate for use of training aids and devices.

Prepare the training site according to the conditions statement and evaluation preparation section of the task summary, as appropriate.

Prepare the soldiers.

Tell the soldier what task to do and how well it must be done. Refer to the standards statement and evaluation preparation section for each task as appropriate.

Caution soldiers about safety, environment, and security.

Provide any necessary training on basic skills that soldiers must have before they can be trained on the task.

Pretest each soldier to determine who needs training in what areas by having the soldier perform the task. Use DA Form 5164-R and the evaluation guide in each task summary to make this determination.

Train the soldiers who failed the pretest.

Demonstrate how to do the task or the specific performance steps to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.

Have soldiers practice the task until they can perform it to SM standards.

Evaluate each soldier using the evaluation guide.

Provide feedback to those soldiers who fail to perform to SM standards and have them continue to practice until they can perform to SM standards.

Record results in the leader book.

1-7. Training Support

This manual includes the following information which provides additional training support information.

Appendix A, DA Form 5165-R (Field Expedient Squad Book). This appendix provides an overprinted copy of DA Form 5165-R for the tasks in this MOS. The NCO trainer can use this form to set up the leader book described in FM 25-101, appendix B. The use of this form may help preclude writing the soldier tasks associated with the unit's mission essential task list, and can become a part of the leader book.

Appendix B contains information on surface section computations.

Glossary. The glossary, which follows the last appendix, is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.

References. This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are listed in the conditions statement and are required for the soldier to do the task. Related references are materials which provide more detailed information and a more thorough explanation of task performance.

CHAPTER 2

Training Guide

2-1. General. The MOS Training Plan (MTP) identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the MTP should be used as a guide for conducting unit training and not a rigid standard. The MTP consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for soldiers in this MOS.

Part One of the MTP shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas.

Section I lists subject area numbers and titles used throughout the MTP. These subject areas are used to define the training requirements for each duty position within an MOS.

Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position column**. This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area column**. This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train column**. This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger column**. This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area column**. This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number column**. This column lists the task numbers for all tasks included in the subject area.
- **Title column**. This column lists the task title for each task in the subject area.
- **Training Location column**. This column identifies the training location where the task is first trained to soldier training publications standards. If the task is first trained to standard in the unit, the word “Unit” will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (ANCOC, BNCOC, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

UNIT	Trained in the Unit
AIT	Advanced Individual Training
BNCOC	Basic NCO Course

Figure 2-1. Training Locations

- **Sustainment Training Frequency column**. This column indicates the recommended frequency at which the tasks should be trained to ensure soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

BA - Biannually
AN - Annually
SA - Semiannually
QT - Quarterly
MO - Monthly
BW - Bi-weekly
WK - Weekly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level column**. This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to soldier's manual standards.

2-2. Part One, Section I. Subject Area Codes.

Skill Level 1

1 Fabrication
2 Surfacing
3 Equipment Maintenance
4 Optical Unit Assemblage
5 Basic Administration

Skill Level 2

6 General Administration

Skill Level 3

7 Advanced Optical Support
8 Advanced Administration

Skill Level 4

9 Senior Administration

2-3. Part One, Section II. Duty Position Training Requirements.

	DUTY POSITION	SUBJECT AREAS	CROSS TRAIN	TRAIN-UP/ MERGER
SL 1	Optical Laboratory Specialist	1-5	NA	91H2 Optical Laboratory Specialist
SL 2	Optical Laboratory Specialist	1-6	NA	91H3 Optical Laboratory NCO
SL 3	Optical Laboratory NCO	1-8	NA	91H4 Senior Optical Laboratory NCO
SL 4	Senior Optical Laboratory NCO	1-9	NA	91B5 Operations Sgt 91B5M Medical 1st Sergeant

2-4. Part Two. Critical Tasks List.

MOS TRAINING PLAN
91H14

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 1					
1. Fabrication	081-875-4376	SELECT FINISHED STOCK	AIT	AN	1-4
	081-875-4377	SPOT LENSES FOR FABRICATION	AIT	AN	1-4
	081-875-4380	EDGE LENSES	AIT	AN	1-4
	081-875-4382	SAFETY BEVEL LENSES	AIT	AN	1-4
	081-875-4386	ASSEMBLE FRAME STOCK	AIT	AN	1-4
	081-875-4387	INSERT LENSES INTO NONMETALLIC FRAMES	AIT	AN	1-4
	081-875-4398	BLOCK LENSES FOR EDGING	AIT	AN	1-4
	081-875-4401	TINT LENSES	AIT	AN	1-4
	081-875-4420	DOWNLOAD OPTICAL PRESCRIPTIONS	AIT	AN	1-4
	081-875-4428	INSERT LENSES INTO METAL FRAMES	AIT	AN	1-4
	081-875-4429	INSPECT COMPLETED SPECTACLES	AIT	AN	1-4
	081-875-4451	EDIT AN OPTICAL PRESCRIPTION	AIT	AN	1-4
2. Surfacing	081-875-4351	BLOCK LENS BLANKS FOR SURFACING	AIT	AN	1-4
	081-875-4364	DEBLOCK LENSES	AIT	AN	1-4
	081-875-4399	PREPARE A SURFACE WORKSHEET	AIT	AN	1-4
	081-875-4402	CUT LENS SURFACES USING A LENS GENERATOR	AIT	AN	1-4
	081-875-4403	FABRICATE LAPS USING A LENS GENERATOR	AIT	AN	1-4
	081-875-4404	FINE GRIND LENS SURFACES USING AN AUTOMATIC SURFACER	AIT	AN	1-4
	081-875-4405	POLISH LENS SURFACES USING AN AUTOMATIC SURFACER	AIT	AN	1-4
3. Equipment Maintenance	081-875-4374	PERFORM PMCS ON A DEBLOCKER	AIT	AN	1-4
	081-875-4389	PERFORM PMCS ON A LENSOMETER	AIT	AN	1-4
	081-875-4392	PERFORM PMCS ON AN EDGER	AIT	AN	1-4
	081-875-4410	PERFORM PMCS ON A FABRICATION BLOCKER	AIT	AN	1-4
	081-875-4411	PERFORM PMCS ON A SURFACE BLOCKER	AIT	AN	1-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-875-4412	PERFORM PMCS ON A LENS GENERATOR	AIT	AN	1-4
	081-875-4413	PERFORM PMCS ON AN AUTOMATIC LENS SURFACER	AIT	AN	1-4
	081-875-4414	PERFORM PMCS ON A TINT UNIT	AIT	AN	1-4
4. Optical Unit Assemblage	081-875-4423	SET UP AN OPTICAL FABRICATION UNIT ASSEMBLAGE	AIT	AN	1-4
	081-875-4431	MAINTAIN AN OPTICAL FABRICATION UNIT ASSEMBLAGE	AIT	AN	1-4
5. Basic Administration	101-521-1151	ORDER SUPPLIES AND EQUIPMENT	AIT	AN	1-4
	081-875-4475	PREPARE A QUARTERLY OPTICAL LABORATORY REPORT (DA FORM 2717)	AIT	AN	1-4
Skill Level 2					
6. General Administration	081-872-0043	COMPUTE AUTHORIZED STOCKAGE LEVELS FOR MEDICAL SUPPLIES USING THE DAYS OF SUPPLY (DOS) COMPUTATION	UNIT	AN	2-4
	081-875-4430	INSPECT AN OPTICAL LABORATORY TO ENSURE A SAFE WORKING ENVIRONMENT	UNIT	AN	2-4
Skill Level 3					
7. Advanced Optical Support	081-830-1024	ASSEMBLE A FIELD COMBAT OPTOMETRY SET	BNCOC	AN	3-4
	081-830-1055	CALIBRATE THE EYE CHART	BNCOC	AN	3-4
8. Advanced Administration	081-875-4434	MAINTAIN OPTICAL LABORATORY CREDIT CARD ACCOUNT	BNCOC	AN	3-4
Skill Level 4					
9. Senior Administration	081-875-4435	DEVELOP THE ANNUAL OPTICAL LABORATORY BUDGET REQUIREMENT	ANCOC	AN	4
	081-875-4436	PREPARE AN ANNUAL OPTICAL LABORATORY REPORT	ANCOC	AN	4

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Fabrication

DOWNLOAD OPTICAL PRESCRIPTIONS
081-875-4420

Conditions: You must receive prescriptions from supported clinics using the Lab Spectacle Request Transmittal System (SRTS). Necessary materials and equipment: Personal computer, printer, DD Forms 771. The system and the attached modem are on line. The system is in the receive mode. Supported clinics have sent requests through the modem. The printer is on line with DD Forms 771 loaded.

Standards: The prescriptions will be printed on DD Form 771 and forwarded to the editing section.

Performance Steps

1. "Quit" the communications menu to enter the main menu.
2. Choose LOAD PACKAGES from the main menu.
3. Choose VIEW to see received packages.
4. Select the clinic and PRINT to print the requested package or choose PRINT ALL to print all pending requests.
5. Choose QUIT to return to the communications menu.
6. Forward printed prescriptions for editing.

Performance Measures	**GO**	**NO GO**
1. "Quit" the communications menu to enter the main menu.	____	____
2. Choose LOAD PACKAGES from the main menu.	____	____
3. Choose VIEW to see received packages.	____	____
4. Select the clinic and PRINT to print the requested package or choose PRINT ALL to print all pending requests.	____	____
5. Choose QUIT to return to the communications menu.	____	____
6. Forward printed prescriptions for editing.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
AR 40-63
FM 8-37
SRTS END USER GUIDE

EDIT AN OPTICAL PRESCRIPTION

081-875-4451

Conditions: You have received prescriptions from supported clinics. Necessary materials and equipment: date stamp, marking pen, AR 40-63, and a lens stock range chart.

Standards: Incoming prescriptions are verified, dated, and sorted by eligibility category, type of glasses, and laboratory capability. Special information is marked.

Performance Steps

1. Process all incoming prescriptions on a daily basis.

NOTE: If an excessive amount of time has elapsed between the date the prescription was written and the date it was received, the requesting facility should be notified and cautioned against the practice of stockpiling prescriptions or holding them until a number have accumulated. Prescriptions should be forwarded on a daily basis.

   a. Ensure that each prescription has two copies stapled together.
   b. Ensure that each prescription is authorized IAW AR 40-63.
   c. Ensure that each prescription is marked with the date received.

2. Scan each prescription for completeness, legibility, and for conformance with AR 40-63.

NOTE: If a prescription requesting a replacement of only one lens is received and the requesting facility failed to record the prescription of the lens in the frame, analyze the lens and record its power on the DD Form 771 for record.

3. Mark the prescription with a marking pen (preferably red) to identify all items which require special attention for fabricating and categorizing.
   a. Branch of service, if other than Army.
   b. Type of spectacle, if other than standard issue.

NOTE: Each type of prescription, such as single vision, bifocal, tint, or protective mask insert, requires a separate DD Form 771.

   c. Female shape spectacles.
   d. Different sphere power signs.
   e. Out decentration.
   f. Prism requirement.
   g. Number of pairs, if other than one.
   h. Tinted lenses.
   i. Type of bifocals.
   j. Any other special attention items.

4. Sort the prescriptions by branch of service, retired, dependents, and others.

5. Count the number of pairs of single vision, multi-vision, inserts, plastics, and other types for each category and record.

6. Sort the prescriptions for laboratory capability (single vision finished, single vision surface, multi-vision, and special lens requests).

7. Forward the work to the appropriate selection.

8. Refer any work which is beyond the laboratory's capability to the authorized supporting laboratory.

Performance Measures	**GO**	**NO GO**
1. Process all incoming prescriptions on a daily basis.	____	____
2. Scan each prescription for completeness, legibility, and for conformance with AR 40-63.	____	____
3. Mark the prescription with a marking pen (preferably red) to identify all items which require special attention for fabricating and categorizing.	____	____
4. Sort the prescriptions by branch of service, retired, dependents, and others.	____	____
5. Count the number of pairs of single vision, multi-vision, inserts, plastics, and other types for each category and record.	____	____
6. Sort the prescriptions for laboratory capability (single vision finished, single vision surface, multi-vision, and special lens requests).	____	____
7. Forward the work to the appropriate selection.	____	____
8. Refer any work which is beyond the laboratory's capability to the authorized supporting laboratory.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
AR 40-63	AR 40-61

SELECT FINISHED STOCK

081-875-4376

Conditions: You have received single vision prescriptions which have been edited. Necessary materials and equipment: job trays, single vision lens stock, marking pen, and stock accounting cards.

Standards: The prescription will be trayed, the proper lenses selected, and the stock cards pulled and forwarded to supply when applicable.

Performance Steps

1. Place each prescription in a separate job tray.

2. Select lens stock to match the prescription.
   a. If a job calls for two pairs but only one is available, supply one pair of spectacles and annotate the prescription to notify the clinic.
   b. If the proper lenses are not in stock, lenses may be substituted if the lens power exceeds 5 diopters. Substitution is limited to a 0.25 D change in either the sphere or cylinder power.

NOTE: If a substitution is required, only one pair of spectacles will be issued and the prescription will be annotated.

3. Ensure that the pulled lenses will cut out by determining the blank size required.

NOTE: Selecting the minimal lens blank size available will allow a lens to be fabricated at minimum thickness, making it more cosmetically appealing. It also will reduce the weight of the lens and its magnification, as well as reduce lens breakage. Smaller lenses also cost less.

   a. Minimum lens blank size (MLBS) is determined by using the following formula:

$$MLBS = ED + 2(d) + 2\ mm$$

Where: ED = effective diameter (twice the distance from the center of the lens to the farthest corner of the eyewire)

d = decentration per lens

Example: $ED + 2(d) + 2 = MLBS$

$(52) + 2(3) + 2 = 60\ mm$

   b. The overall lens blank size must increase by 2 mm for every 1 mm of decentration per lens.

4. Forward stock accounting cards to supply.
   a. The stock accounting cards will be placed between lenses at the reorder point level.

NOTE: The reorder point is computed IAW task 081-872-0043.

   b. As lenses are used and the card is reached, remove the card and place it in a central location.
   c. At the end of each day, forward the collected cards to supply for reordering of lens stock.

Performance Measures	**GO**	**NO GO**
1. Place each prescription in a separate job tray.	____	____
2. Select lens stock to match the prescription.	____	____
3. Ensure that the pulled lenses will cut out by determining the blank size required.	____	____
4. Forward stock accounting cards to supply.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FM 8-37

SPOT LENSES FOR FABRICATION

081-875-4377

Conditions: You have received a job tray with lenses which must be spotted. Necessary materials and equipment: lensometer, lens marking pen, water, towel, and PD ruler.

Standards: The lenses are spotted. Lenses with prism are identified and spotted with prism. The factory dots are removed, the lens powers are verified, and the lenses are marked for the right or left eye.

Performance Steps

1. Adjust the eyepiece for sharp focus.
   a. Position the power wheel on plano or zero.
   b. Rotate the eyepiece until the target is in the clearest possible focus.
2. Compare the powers on the package with the prescription powers.
3. Remove the lenses from the package and inspect for flaws.
4. Wipe off factory dots with a clean towel.
5. Position a lens in the lens measuring instrument with the concave side facing away and verify the lens powers.

NOTE: If the lens is not the correct power and is not within tolerance, return the job to the proper section for lens replacement.

6. Spot the lens.

NOTES: 1. Do not spot flat top bifocals. 2. Spot Executive style bifocals on either the distance or near portion of the lens, depending on power and local procedure.

   a. Without prism.
      (1) Set the axis wheel on the axis reading for the lens.
      (2) Turn the lens so that the single line comes in clear and straight.
      (3) Center the single line in the reticle (or center the entire image when spotting spherical lenses) both vertically and horizontally.
      (4) If the lens is a cylinder lens, turn the power wheel to the PWIII reading and ensure that the three lines come in clear and straight.
      (5) Center the three lines in the reticle, both vertically and horizontally.

NOTE: You may have to go between PWI and PWIII several times to ensure both are centered.

      (6) Spot the lens.

NOTE: When spotting lenses with little or no power in the 180th meridian, always spot the lens so that the lens will cut out after proper decentration.

   b. With prism.

NOTE: Normally an individual wearing corrective lenses has each lens positioned with its optical center over the visual center. When prism is prescribed, small amounts of prism may be produced by decentration. When the optical center is moved off-center in relationship to the visual center, a prismatic effect occurs. Higher amounts of prism must be ground into a lens due to lens size limitations on decentering for prism.

      (1) Decenter a plus lens IN to create Base In prism.
      (2) Decenter a plus lens OUT to create Base Out prism.
      (3) Decenter a minus lens IN to create Base Out prism.
      (4) Decenter a minus lens OUT to create Base In prism.

Performance Steps

NOTE: Remember that a lens is positioned in the lensometer with the concave side facing away. Thus, all decentration movements should be made from the perspective of the wearer.

7. Remove the lens from the lens-measuring instrument.
8. Indicate right or left lens with a marking pen and mark "T" indicating top, on lenses which were spotted with prism.
9. Return the lens to the proper tray.
10. Repeat steps 4 through 9 until all lenses in the tray have been completed.

Performance Measures	**GO**	**NO GO**
1. Adjust the eyepiece for sharp focus.	____	____
2. Compare the powers on the package with the prescription powers.	____	____
3. Remove the lenses from the package and inspect for flaws.	____	____
4. Wipe off factory dots with a clean towel.	____	____
5. Position a lens in the lens measuring instrument with the concave side facing away and verify the lens powers.	____	____
6. Spot the lens.	____	____
7. Remove the lens from the lens-measuring instrument.	____	____
8. Indicate right or left lens with a marking pen and mark "T" indicating top, on lenses which were spotted with prism.	____	____
9. Return the lens to the proper tray.	____	____
10. Repeat steps 4 through 9 until all lenses in the tray have been completed.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FM 8-11-2
	FM 8-37

BLOCK LENSES FOR EDGING

081-875-4398

Conditions: You have received a job tray with lenses which have been spotted for blocking. Necessary materials and equipment: fabrication marker/blocker, various curvature lens blocks, and adhesive pads.

Standards: The lenses are blocked for edging in compliance with the prescription requirements. The correct block size is applied in accordance with the base curve and size of the lens to be edged.

Performance Steps

1. Select the appropriate block.

NOTE: There are three sizes of blocks. The most common is the block with a 6.00 base curve. There are also 0.50 base curve blocks for high minus lenses and 10.00 base curve blocks for high plus lenses.

2. Apply an adhesive pad to the block.
    a. Remove an adhesive pad from the roll and apply it to the block.

NOTE: Local SOP may allow preparing several blocks at a time by removing the paper covers from the individual adhesive pads and applying blocks to the pads while the pads are still on the paper strip.

    b. Ensure the block is centered on the pad.

CAUTION: Care should be taken to limit contact of the pad with your fingers. Unnecessary contact with the adhesive portion of the pad may result in the pad losing its adhesive properties.

3. Place the padded block into the chuck adapter.

4. Position the lens on the protractor.
    a. Place the lens over the protractor of the machine with the convex side of the lens facing up.
    b. Look through the window of the protractor and decenter the lens according to prescription requirements.
        (1) Start with the vertical and horizontal alignment lines set at the origin (0,0).
        (2) According to prescription, adjust the vertical movement knob up or down the correct number of millimeters for the desired segment setting on multifocal lenses.
        (3) Adjust the lateral movement knob left or right the correct number of millimeters for IN or OUT decentration.

5. Block the lens.
    a. Pull the block holder handle downward.
    b. Apply enough pressure to block the lens.

6. Remove the blocked lens and place it in the tray.

7. Repeat the procedure until all lenses in the tray have been completed.

Performance Measures	**GO**	**NO GO**
1. Select the appropriate block.	____	____
2. Apply an adhesive pad to the block.	____	____
3. Place the padded block into the chuck adapter.	____	____
4. Position the lens on the protractor.	____	____
5. Block the lens.	____	____
6. Remove the blocked lens and place it in the tray.	____	____
7. Repeat the procedure until all lenses in the tray have been completed.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	MARKER/BLOCKER MANUAL

EDGE LENSES
081-875-4380

Conditions: You have received a job tray with lenses which have been blocked for edging. Necessary materials and equipment: lens edger, deblocking tool, cut resistant gloves, towel, box-o-graph, and patterns.

Standards: The lenses are edged to the size and shape specified on the prescription. The lenses will be edged on axis and not have rejectable faults.

Performance Steps

1. Ensure correct installation of the edger.
    a. Attach the vacuum system.
        (1) Insert the end of the 2 1/2" flex vacuum hose into the coupler on the bottom of the edger from below the bench.

NOTE: This connects the hose to the chip chute, the device in the edger that captures the plastic debris.

        (2) Maintaining a gentle curve between the chip chute and vacuum, connect the other end of the 2 1/2" hose to the vacuum inlet.

NOTE: The vacuum inlet is the lower hole in the vacuum canister.

    b. Attach the compressed air line.
        (1) Install the regulator/filter assembly by inserting it into the quick-connect bulkhead fitting and snapping it in place.
        (2) Attach the quick disconnect onto the end of the air line to be used.
        (3) Push the air line on the male fitting of the regulator/filter assembly.
        (4) Verify that the pressure is set at 80 psi.

NOTE: If adjustment is necessary, adjust the knob on the top of the regulator/filter assembly until it is set at 80 psi. This is the required operating pressure.

        (5) Ensure the pattern tracking pressure gauge on the front panel of the edger reads 50 psi when the inlet pressure gauge reads 80 psi.

NOTE: If the gauge does not read 50 psi, adjust it using the adjustment knob on the control panel directly below the gauge.

    c. Run the edger through several test cycles to check for proper operation.

2. Select the pattern to match the prescription requirements.

3. Mount the frame pattern.

NOTE: With the clear plexiglas shield raised, mount the frame pattern on the spring clip on the left side of the lens drive motor shaft.

4. Chuck the lens.
    a. Place the blocked lens into the chuck adapter.
    b. Hold the lens in position and press the CHUCK button.

5. Set the size dial.

NOTE: The edger uses the U.S. convention of 36.5 mm as the size-on-size setting. It will be necessary to determine your pattern size prior to setting the size dial for the prescribed frame.

    a. Measure the pattern horizontally using a box-o-graph or PD ruler.
    b. Calculate the difference between the pattern size and 36.5 mm. This difference is the SET of the pattern.

Performance Steps

c. If the pattern measures less than 36.5 mm, add the SET to the eye size of the frame you will be using (see example 1). If the pattern measures greater than 36.5 mm, subtract the SET from the eye size of the frame you will be using (see example 2).

Example 1: Pattern measures 31.5 mm. Eye size of frame is 48 mm.

	36.5 mm		48.0 mm	
	- 31.5 mm	SO	+5.0 mm	
SET =	5.0 mm		53.0 mm	(this will be the machine setting)

Example 2: Pattern measures 51.5 mm. Eye size of frame is 50 mm.

	51.5 mm		50.0 mm	
	- 36.5 mm	SO	- 15.0 mm	
SET =	15.0 mm		35.0 mm	(this will be the machine setting)

6. Edge the lens.
   a. Close the plexiglass shield.
   b. Set the bevel placement.

NOTE: The edger has two methods of bevel control. The front curve tracking bevel placement system uses a teflon wheel which traces the front curve of the lens. The multi-cam tracking system utilizes a stair-step cam mounted on the lens drive motor carriage and a cam follower assembly that replaces the bevel guide wheel assembly. The multi-cam system is most effective with small lenses such as gas mask inserts and half-eyes, irregular fronts, and lower base lenses, when a high-based bevel curve is needed for frame insertion (such as inserting a 2-base lens into a 6-base frame).

   (1) Set the bevel placement by turning the knob on the right side of the edger.
   (2) Position the bevel guide to ensure a 1/3, 2/3 bevel.

NOTE: Ideally, the bevel should have a 1/3, 2/3 bevel, with 1/3 of the lens thickness towards the front of the lens and 2/3 of the thickness towards the back of the lens.

   c. Engage the start button.

7. Engage the appropriate cycle button for edging adjustments if necessary.
   a. STOP/RESET. This is a "Panic Button". Pressing this button at any time will abort the cycle and return the lens drive/cutter motor carriages to the start position.
   b. PAUSE. The pause control can be used in two modes:
      (1) When engaged during the first half of the cutting cycle (roughing), it will prevent the edger from advancing to the finishing position until it is released.
      (2) When engaged during the second half of the cutting cycle (finishing), it will freeze the cycle.

NOTE: The pause feature is particularly helpful for making mid-cycle bevel adjustments.

8. Remove the lens.

9. Inspect the lens for rejectable defects in size, shape, axis, chips, chatter marks, and flakes.
   a. Flakes and chips that are too large to be removed by the safety beveler will be cause for rejection of the lens.

Performance Steps

b. Check the lens sizing by using a box-o-graph, micrometer, or by sizing it to the prescribed frame.
c. Axis adjustments should be accomplished using the guidelines in the manufacturer's literature.

10. Make necessary adjustments to correct rejectable defects before edging more lenses.
    a. Correct for bumps on the lens edge.
        (1) The teflon wheel may be set too high and contacting the LEAP pad or block. Verify that the wheel assembly is locked in its proper position for beveling, with the locating pin fully seated in the mounting block.
        (2) If the teflon wheel is contacting the block, check the effective diameter of the lens. The minimum diameter that can be edged with the standard front curve tracking system is 34 mm. Smaller diameters will require the multi-cam system.
        (3) A bump on the lens edge may also be caused by improper pattern tracking pressure. Ensure that the pattern tracking pressure is set in accordance with adjustment procedures.
    b. Correct for lines running across the periphery of the lens.
        (1) The cutter inserts may be too dull. Install new inserts.
        (2) The cutter may be unbalanced. Ensure that both inserts are fully seated in the cutter.
    c. Correct for pit marks appearing around the entire periphery of the lens. The nose bearings of the cutter motor may be bad, requiring replacement.
    d. Correct for pit marks appearing only on the corners of the lens.
        (1) Thrust plate wear may require adjustment.
        (2) The lens drive assembly may require replacement.
    e. Correct for marks on the front of the lens.
        (1) Extremely dull cutters can cause this problem and may require replacement.
        (2) Static electricity may cause mild aberrations. The lens can often be heated and wiped with a soft lint-free cloth to remove any plastic dust adhering to the surface of the lens.

11. Remove the block from the lens.

CAUTION: Use the proper deblocking tool and wear cut resistant gloves when deblocking. Lenses can cause severe lacerations.

12. Return the lens to the proper tray if no defects are found.

13. Repeat the procedure until all lenses in the tray have been completed.

Performance Measures	**GO**	**NO GO**
1. Ensure correct installation of the edger.	____	____
2. Select the pattern to match the prescription.	____	____
3. Mount the frame pattern.	____	____
4. Chuck the lens.	____	____
5. Set the size dial.	____	____

Performance Measures	GO	NO GO
6. Edge the lens.	____	____
7. Engage the appropriate cycle button for edging adjustments if necessary.	____	____
8. Remove the lens.	____	____
9. Inspect the lens for rejectable defects in size, shape, axis, chips, chatter marks, and flakes.	____	____
10. Make necessary adjustments to correct rejectable defects before edging more lenses.	____	____
11. Remove the block from the lens.	____	____
12. Return the lens to the proper tray if no defects are found.	____	____
13. Repeat the procedure until all lenses in the tray have been completed.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	LENS EDGER MANUAL

SAFETY BEVEL LENSES

081-875-4382

Conditions: You have received a job tray with lenses which have been edged and deblocked. Necessary materials and equipment: hand edger, water, sponges, towel, and metal frame.

Standards: The lenses are safety beveled, flakes and chips are removed (within cosmetic tolerances), and lenses which are to be inserted into metal frames have been sized.

Performance Steps

1. Turn on the machine.
2. Adjust the water source, ensuring a steady supply of water is maintained to keep the beveling wheel wet.

NOTE: Some safety bevelers are designed with a drip spout attached above the wheel. For this type, adjust the drip to allow only enough water to keep the wheel wet. Other safety bevelers are designed with a water well on the underside of the beveling wheel. To maintain an even flow of water it may be necessary to place a wet sponge inside the well and against the wheel.

3. Bevel the concave edge of plastic lenses.
   a. Move the lens side to side so as not to put ruts in the face of the wheel.
   b. Remove only what is necessary to eliminate sharp edges, chips, flakes, or humps.

CAUTION: Ensure that the convex surface of the lens does not come in contact with the wheel, thereby causing a stone bruise.

4. Wipe and inspect each lens with a soft dry towel to ensure that all defects have been removed.

NOTE: If this check reveals any defects that cannot be removed, return the lens and job tray to the appropriate section for replacement.

5. Return each lens to the proper tray, convex side up.

NOTE: Lenses for metal frames may require sizing for proper fit into the frame. If the bevel is too sharp, the lenses could be chipped or flaked during insertion.

6. Return each lens to the proper tray, convex side up.

Performance Measures	**GO**	**NO GO**
1. Turn on the machine.	____	____
2. Adjust the water source, ensuring a steady supply of water is maintained to keep the beveling wheel wet.	____	____
3. Bevel the concave edge of plastic lenses.	____	____
4. Wipe and inspect each lens with a soft dry towel to ensure that all defects have been removed.	____	____
5. Return each lens to the proper tray, convex side up.	____	____

Performance Measures	GO	NO GO
6. Return each lens to the proper tray, convex side up.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	FM 8-11-2
	FM 8-37

TINT LENSES
081-875-4401

Conditions: You have received a job tray with plastic lenses which require tinting. Necessary materials and equipment: dye bath, lens dye, a thermometer, a UV/Visible photometer, neutralizer, lens prep solution, clean towels, and lens holder.

Standards: The lenses are tinted according to prescription requirements. The correct amount of light is transmitted through the lens and the colors of the lenses match.

Performance Steps

1. Turn on and ensure the dye bath is heated to the dye manufacturer's recommendation.

NOTE: Consider the effect of altitude on the boiling point when selecting a dye. Verify the accuracy of the dye bath thermostat with a thermometer.

2. Ensure the lenses are clean.
3. Place the lenses in the lens holder.
4. Place the lenses into the dye bath.
5. Ensure the lenses reach the correct shade.

NOTE: Lenses are to be tinted to the specifications as stated on DD Form 771. The time required to tint lenses will vary greatly depending on the dye, the manufacturer of the lens, the age of the lens, and various other factors. Check the lens tint with an approved UV/Visible photometer.

6. Adjust for correct tint.
   a. If lenses are too blue, dip them in brown.
   b. If lenses are too purple, dip them in yellow.
   c. If lenses are too green, dip them in pink.
   d. If lenses are too brown, dip them in blue.
   e. If lenses are too yellow, dip them in blue, followed by red.
7. Determine the causes of deficient tints.
   a. Poor color may mean the dye is contaminated or too old and should be replaced. Incorrect temperature could also cause poor color.
   b. Dark stray marks may mean the lenses were improperly cleaned or that there are defects in the manufacturer's lens coating.
   c. Light areas are caused by poor dye/lens contact such as the lens coming in contact with another lens, the lens holder, or an air bubble if a lens is dyed concave side down.
   d. Lenses that take too long to tint may indicate the dye bath is set at too low a temperature or that there is a coating on the lens, such as a scratch resistant coating.

Performance Measures	**GO**	**NO GO**
1. Turn on and ensure the dye bath is heated to the dye manufacturer's recommendation.	____	____
2. Ensure the lenses are clean.	____	____
3. Place the lenses in the lens holder.	____	____

Performance Measures	GO	NO GO
4. Place the lenses into the dye bath.	____	____
5. Ensure the lenses reach the correct shade.	____	____
6. Adjust for correct tint.	____	____
7. Determine the causes of deficient tints.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	FM 8-11-2

ASSEMBLE FRAME STOCK

081-875-4386

Conditions: You have received a job tray with the prescription and lenses which have been edged and safety beveled. Necessary materials and equipment: frame stock, screwdriver, screws, and peening pliers.

Standards: The prescription frame components are assembled and placed in the appropriate job tray.

Performance Steps

1. Select the frame.
   a. Select a quick pull frame (front with temples attached) according to the prescription.
   b. If a quick pull frame is not available, pull the front and temple length required.
   c. Select the correct gas mask insert or aviator frame, according to the prescription.
2. Assemble the frame, if required, by attaching the temples to the fronts.
3. Peen the screws.
4. Forward the job tray to the appropriate section.

Performance Measures	**GO**	**NO GO**
1. Select the frame.	____	____
2. Assemble the frame, if required, by attaching the temples to the fronts.	____	____
3. Peen the screws.	____	____
4. Forward the job tray to the appropriate section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	AR 40-63
	FM 8-11-2
	FM 8-37

INSERT LENSES INTO NONMETALLIC FRAMES

081-875-4387

Conditions: You have received a job tray with the prescription and lenses. The proper frames have been pulled. Necessary materials and equipment: frame warmer with beads, axis pliers, and a pan of cool water.

Standards: The lenses are inserted into the frames. The frame shows no signs of overheating. The lenses are on shape.

Performance Steps

1. Prepare the frame warmer.
   a. Heat the glass beads.
   b. Use a file or similar tool to stir the glass beads to remove any "hot spots".
2. Place the frame front into the glass beads.

NOTE: The frame should be moved in a circular motion through the glass beads.

CAUTION: Care should be taken not to touch the sides of the frame warmer. This could cause the frame to burn or scratch.

3. Remove the frame from the frame warmer when the eyewire is soft and pliable.
4. Insert the lenses into the appropriate eyewire.

NOTE: Lenses must be inserted from the front because the back inside diameter of the eyewire is slightly smaller than the front inside diameter. This is a safety feature which helps prevent the lens from being forced against the face in case of a blow to the lens while being worn.

   a. Insert the OD lens by beginning at the temporal edge and working around the eyewire to the bridge.
   b. Insert the OS lens in the same manner.

NOTE: Proper technique should allow both lenses to be inserted with only one frame warming. Repeated heating of a frame may cause frame burns, rolls, stretches, or pinched eyewires.

5. Ensure proper fit of the lenses.
   a. If the eyewire is not snug, dip the frame with lenses into a pan of cool water to shrink the eyewire.
   b. Align the lens shape with axis pliers.

Performance Measures	**GO**	**NO GO**
1. Prepare the frame warmer.	____	____
2. Place the frame front into the glass beads.	____	____
3. Remove the frame from the frame warmer when the eyewire is soft and pliable.	____	____
4. Insert the lenses into the appropriate eyewire.	____	____
5. Ensure proper fit of the lenses.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	ANSI Z80 STANDARDS
	FM 8-11-2
	FM 8-37

INSERT LENSES INTO METAL FRAMES

081-875-4428

Conditions: You have received a job tray with the prescription and lenses. The proper frames have been pulled. Necessary materials and equipment: opticians screw driver, axis pliers, lens washer, mm ruler, and towel.

Standards: The lenses are inserted into the frames on shape and without chipping the lenses. The lenses fit snugly into the frames and no gaps are present.

Performance Steps

1. Loosen the right eyewire screw.
2. Insert the right lens.
3. Tighten the eyewire screw.
4. Inspect the lens for proper size.

NOTE: Lenses which have been cut too large may chip, flake, or warp the lens when tightening the eyewire screw. Lenses which have been cut too small may require lens washer to fill in the gaps. The lens should be rejected if lens washer is needed to fill more than one half of the circumference.

5. Repeat steps 1 through 4 for the left lens.
6. Return the spectacles to the proper tray.

Performance Measures	**GO**	**NO GO**
1. Loosen the right eyewire screw.	____	____
2. Insert the right lens.	____	____
3. Tighten the eyewire screw.	____	____
4. Inspect the lens for proper size.	____	____
5. Repeat steps 1 through 4 for the left lens.	____	____
6. Return the spectacles to the proper tray.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FM 8-11-2
	FM 8-37

INSPECT COMPLETED SPECTACLES

081-875-4429

Conditions: You have received a job tray with lenses inserted into the frames. Necessary materials and equipment: frame warmer with beads, opticians screw driver, axis pliers, mm ruler, towel, a flat surface, a bead bath, cold water, lens measuring instrument, marking pen, inspection stamp, spectacle cases, rubber bands, mailing boxes, mailing labels, packing materials, tape, and appropriate postal mailing classification.

Standards: The frames are aligned and adjusted, without burning or rolling the frame. The lenses fit snugly into the frame and there are no gaps. The completed spectacles are inspected for compliance with prescription requirements. The frame and lens tolerances conform to the ANSI Z80 standards. The completed spectacles are packed and mailed to appropriate clinics on a daily basis. Spectacles with plastic lenses will be furnished with a lined case.

Performance Steps

1. Inspect the frame measurements to verify that the eye size, bridge size, and temple length are as requested on the prescription.
2. Inspect the frame alignment.
   a. Ensure 4-point alignment. (See Figure 3-1, A.)
      (1) Lay the frame upside down on a flat surface with the temples in the open position.
      (2) Ensure each temple touches the flat surface equally, and the frame front lies flat throughout.
   b. Ensure the temples are aligned. (See Figure 3-1, B.)
      (1) The temples must lie flat across each other.
      (2) Some temples may lie slightly angled due to pantoscopic tilt. This angle of the temples to the frame front, when in the open position, should be approximately 5 to 7 degrees less than perpendicular.
   c. Ensure the lenses are on shape. (See Figure 3-1, C.)
      (1) Lenses will be off shape if inserted off axis.
      (2) Use axis pliers to twist the lenses on axis or within tolerance of ANSI standards.
   d. Ensure the lenses are on the same plane. (See Figure 3-1, D.)

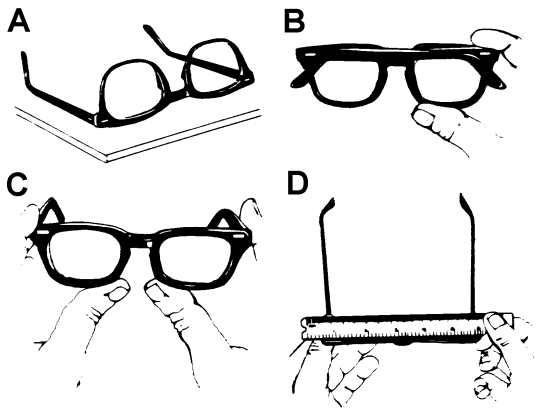


Figure 3-1

Performance Steps

3. Inspect the frame for burns, rolls, tool marks, cracks, scratches, unpeened screws, or loose hinges.

4. Inspect the lenses for appearance.
   a. Ensure there are no pits, scratches, gray, bubbles, cracks, striae, or watermarks.
   b. Ensure tinted lenses transmit the proper amount of light and are color matched.
   c. Ensure the lenses fit snugly and are on shape.

NOTE: If the lenses are loose or there is a small gap in the eyewire, the frame can be shrunk. Heat the frame and lenses, and then dip them in cold water. This will shrink the eyewire around the lenses.

5. Clean the spectacles.

6. Forward the job tray to the final inspection section.

7. Inspect the lenses in a lens measuring instrument for accuracy and tolerance within ANSI Z80 standards.

NOTE: Prior to inspecting lenses in a lens measuring instrument, you must always adjust the eyepiece for accuracy.

   a. Verify the strongest lens first.
   b. Verify the cylinder axis is within the following maximum tolerances:
      (1) Seven degrees for cylinder powers 0.12 to 0.37 D.
      (2) Five degrees for cylinder powers 0.50 to 0.75 D.
      (3) Three degrees for cylinder powers 0.87 to 1.50 D.
      (4) Two degrees for cylinder powers above 1.50 D.
   c. Verify the vertical measurements of the bifocal segments are within 1.0 mm of specification.
   d. Verify the horizontal positions of the bifocal segments are within 1.0 mm of specification and are balanced and symmetrical.
   e. Verify the optical centers of the lenses have no greater than 1/3 diopter of vertical imbalance or are within 1.0 mm of the specified location, and no greater than 2/3 diopter horizontal imbalance or 2.5 mm of the specified pupillary distance.

8. Ensure the DD 771 has been annotated correctly if any substitutions were necessary.

9. Return the completed job tray to the appropriate section if any of the above-listed inspections reveal any defects or tolerance violations.

10. Stamp both copies of the prescription with the inspector identification number once the spectacles have passed final inspection.

11. Retain one copy of each prescription which has passed inspection for the historical file.

12. Forward the remaining copy of the prescription along with the spectacles and the job tray to the mail room for shipment.

13. Place the spectacles in a lens case.
   a. Provide a lined case for plastic lenses.
   b. If two pair are furnished, place the second pair outside the case.

NOTE: Only one case is furnished per prescription.

14. Wrap the spectacles.
   a. Place a copy of the prescription around the spectacles.

Performance Steps

b. Ensure the address of the ordering clinic is visible.
c. Bind the prescription around the spectacles with a rubber band.

15. Sort the wrapped spectacles by clinics.
16. Pack the spectacles.
    a. Lay the spectacles in a box in an orderly fashion.
    b. Do not overpack the box.
    c. Add sufficient packing material to add cushioning or fill empty space in the box.
    d. Tape each box to satisfy postal requirements.
17. Place the appropriate mailing label on the box.
18. Take the boxes to a postal delivery point.

Performance Measures	**GO**	**NO GO**
1. Inspect the frame measurements to verify that the eye size, bridge size, and temple length are as requested on the prescription.	____	____
2. Inspect the frame alignment.	____	____
3. Inspect the frame for burns, rolls, tool marks, cracks, scratches, unpeened screws, or loose hinges.	____	____
4. Inspect the lenses for appearance.	____	____
5. Clean the spectacles.	____	____
6. Forward the job tray to the final inspection section.	____	____
7. Inspect the lenses in a lens measuring instrument for accuracy and tolerance within ANSI Z80 standards.	____	____
8. Ensure the DD 771 has been annotated correctly if any substitutions were necessary.	____	____
9. Return the completed job tray to the appropriate section if any of the above-listed inspections reveal any defects or tolerance violations.	____	____
10. Stamp both copies of the prescription with the inspector identification number once the spectacles have passed final inspection.	____	____
11. Retain one copy of each prescription which has passed inspection for the historical file.	____	____
12. Forward the remaining copy of the prescription along with the spectacles and the job tray to the mail room for shipment.	____	____
13. Place the spectacles in a lens case.	____	____
14. Wrap the spectacles.	____	____
15. Sort the wrapped spectacles by clinics.	____	____
16. Pack the spectacles.	____	____

Performance Measures	GO	NO GO
17. Place the appropriate mailing label on the box.	___	___
18. Take the boxes to a postal delivery point.	___	___

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	ANSI Z80 STANDARDS AR 40-63 FM 8-11-2 FM 8-37

Subject Area 2: Surfacing

PREPARE A SURFACE WORKSHEET
081-875-4399

Conditions: You have received edited prescriptions which require surfacing. There may or may not be an automated surface write-up system available. Necessary materials and equipment: Surface work trays and surface worksheets. NOTE: Automated surface write-up system. Necessary materials and equipment: Computer with surface write-up software, printer with automated surface worksheet blank forms, and surface work trays.

Standards: Produce a surface worksheet for each submitted prescription with all information filled in correctly, matching the on hand stock of lenses.

Performance Steps
NOTE: Steps 1-14 are for field expedient surface write-up computations.

1. Record the tray number.
2. Enter the number of pairs requested.
3. Record the Rx from the prescription.

NOTE: Ensure the Rx is recorded in minus cylinder form.

4. Select the correct lens blank

NOTE: Select the appropriate base curve by using the nominal base curve selection formula (NBC = spherical equivalent + 6.00 D) and rounding off to the nearest nominal base curve available.

5. Ensure the lens will cut out.

NOTE: To ensure a lens will cut out, use the minimum lens blank formula: ED + (2 x decentration per lens) + 2 mm. (ED = effective diameter of the prescribed frame.) Single vision lenses use the distance PD, while single vision reading lenses and bifocals use the near PD for computing decentration.

6. Check the ADD power from the manufacturer's package to ensure it is correct in accordance with the prescription if surfacing bifocals.
7. Inspect the convex surface for defects such as grey, scratches, pits, air bubbles, or unusual size or shape of the segment.
8. Check the true base curve accuracy with a sagometer.

NOTE: The true base curve will be recorded in the margin next to the nominal base curve.

9. Record the lens type.
10. Compute the compensated power for the lens material used. (See Appendix B for computation details.)
11. Record the amount and base direction of prism. (See Appendix B for computation details.)
12. Record the finished center thickness. (See Appendix B for computation details.)

Performance Steps

13. Record the back curve (D2) and back cross curve (D3). Round up for minus lenses and down for plus lenses to the nearest tool curve. (See Appendix B for computation details.)

14. Forward the surface worksheet with the tray and lenses to the blocking section.

NOTE: Steps 15-21 are for automated surface write-up computations.

15. Enter the tray number of the tray holding the prescription.

16. Enter the lens material and style.

17. Enter the frame data from computer files or manually input the frame parameters.
    a. Eye size ("A" measurement).
    b. Bridge size.
    c. "B" measurement of the frame.
    d. Effective diameter (ED) of the frame.

18. Enter the prescription data for the right eye.
    a. Sphere power.
    b. Cylinder power.
    c. Axis.
    d. Prism amount and direction (in or out).
    e. Prism amount and direction (up or down).
    f. Distant pupillary distance (PD).

NOTE: The near PD will be figured by the software.

    g. Segment height.

NOTE: The software recommends a minimum lens blank size at this point. If the software is set to use the lens files and pick the lens from inventory, the software will recommend a lens blank and automatically compute the job.

19. Accept the recommendation or enter the manufacturer's lens data for the right eye.
    a. Manufacturer's name.
    b. Lens diameter.
    c. Actual sag value.

NOTE: Sag the picked lens if the manufacturer's data for actual sag value is not loaded in the computer.

    d. Add power for the lens.

NOTE: The inset and drop of the multifocal segment will be automatically figured by the software.

    e. Thickness of the lens blank.

NOTE: The software will enter this automatically if the manufacturer's data for the picked lens is in the computer.

20. Repeat steps 4 and 5 for the left eye.

21. Print the surface worksheet and forward it with the tray and lenses to the blocking section.

Performance Measures	**GO**	**NO GO**

NOTE: Steps 1-14 are for field expedient surface write-up computations.

1. Record the tray number.	____	____

Performance Measures	GO	NO GO
2. Enter the number of pairs requested.	____	____
3. Record the Rx from the prescription.	____	____
4. Select the correct lens blank	____	____
5. Ensure the lens will cut out.	____	____
6. Check the ADD power from the manufacturer's package to ensure it is correct in accordance with the prescription if surfacing bifocals.	____	____
7. Inspect the convex surface for defects such as grey, scratches, pits, air bubbles, or unusual size or shape of the segment.	____	____
8. Check the true base curve accuracy with a sagometer.	____	____
9. Record the lens type.	____	____
10. Compute the compensated power for the lens material used. (See Appendix B for computation details.)	____	____
11. Record the amount and base direction of prism. (See Appendix B for computation details.)	____	____
12. Record the finished center thickness. (See Appendix B for computation details.)	____	____
13. Record the back curve (D2) and back cross curve (D3). Round up for minus lenses and down for plus lenses to the nearest tool curve. (See Appendix B for computation details.)	____	____
14. Forward the surface worksheet with the tray and lenses to the blocking section.	____	____
NOTE: Steps 15-21 are for automated surface write-up computations.		
15. Enter the tray number of the tray holding the prescription.	____	____
16. Enter the lens material and style.	____	____
17. Enter the frame data from computer files or manually input the frame parameters.	____	____
18. Enter the prescription data for the right eye.	____	____
19. Accept the recommendation or enter the manufacturer's lens data for the right eye.	____	____
20. Repeat steps 4 and 5 for the left eye.	____	____
21. Print the surface worksheet and forward it with the tray and lenses to the blocking section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	MANUFACTURER'S SOFTWARE MANUAL FM 8-37

BLOCK LENS BLANKS FOR SURFACING
081-875-4351

Conditions: You have received trayed surface work which requires blocking. Necessary materials and equipment: surface blocker and blocks. The blocker is connected to a layout computer, 115 volt 60 Hz 10 amp grounded electrical service, and 90 psi clean dry compressed air.

Standards: The lenses are securely blocked without induced prism.

Performance Steps

1. Enter the job number with a bar code reader or keypad.

NOTE: A job may be manually entered using the blocker keypad and menu interface if your blocker is not hooked to a layout computer.

2. Edit the job parameters.
   a. Ensure that the proper lens has been selected.
   b. Select the block specified in the job status window.

3. Align and block the right lens.
   a. Place the selected block in the blocking ring.
   b. Align the lens blank.
      (1) Place and hold the lens blank on the alignment ring.
      (2) Match the lens blank with the target in the alignment template. The reflected image should align with the target.
   c. Block the right lens.
      (1) Hold the lens in place and press the MOVE key. The transport arm will move to the alignment ring. The vacuum chuck will be lowered to the lens and vacuum will be applied.
      When the blocker beeps, you may release the lens blank.
      (2) Press the MOVE key again. The transport arm lifts the lens and moves it to the blocking station.

NOTE: If the lens does not seat properly, press the ESCAPE key. The transport arm will move the lens back to the alignment ring.

      (3) Press the FILL key and hold it until blocking material fills the gap between the lens and the blocking ring.

NOTE: Wait for the blocker to chill and release the lens.

      (4) Place the blocked lens in the job tray.

4. Repeat step 3 for the left lens.

5. Allow the lenses to set up for 15 minutes before surfacing. Allow longer set up time for warmer rooms.

CAUTION: Do not try to accelerate the setup time.

NOTE: Lenses and blocking material should be kept between 60 and 90 degrees F for generating. For temperatures above 90 degrees F, the lens must be gently chilled to within the optimal range before processing.

Performance Measures	**GO**	**NO GO**
1. Enter the job number with a bar code reader or keypad.	____	____
2. Edit the job parameters.	____	____
3. Align and block the right lens.	____	____
4. Repeat step 3 for the left lens.	____	____
5. Allow the lenses to set up for 15 minutes before surfacing. Allow longer set up time for warmer rooms.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	SURFACE BLOCKER MANUAL

CUT LENS SURFACES USING A LENS GENERATOR

081-875-4402

Conditions: You have received blocked surface work which must be generated. Necessary materials and equipment: lens generator connected to a 115 volt 60 Hz grounded electrical source and 80 psi dry clean air. The generator is connected to computer running surface write-up software. The generator warmup and diagnostics are complete.

Standards: Generate the specified curves on the lens blank from the job worksheet.

Performance Steps

1. Enter the job number with a bar code reader or keypad.

NOTE: If your generator is not receiving data from a write-up computer, you must manually enter the prescription data, lens blank data, and block data.

2. Chuck the lens blank and block in the generator.

NOTE: Verify that the data showing on the generator screen matches the data shown on the prescription and surface worksheet.

3. Cycle the job by pressing the START button.

NOTE: The generator should not operate with the cover raised.

4. Remove the lens and forward the job to the fining section.

CAUTION: An unstable electrical supply can cause numerous problems with lens quality. Uninterruptible, stabilized power supply equipment should always be used for these generators.

Performance Measures	**GO**	**NO GO**
1. Enter the job number with a bar code reader or keypad.	____	____
2. Chuck the lens blank and block in the generator.	____	____
3. Cycle the job by pressing the START button.	____	____
4. Remove the lens and forward the job to the fining section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	LENS GENERATOR MANUAL

FABRICATE LAPS USING A LENS GENERATOR
081-875-4403

Conditions: You have received lap tools which must be accurately trued to a specific curvature. Necessary materials and equipment: lap sag gauge, thickness gauge, and three axis lens generator.

Standards: Fabricate lap tools to a specific curvature accurate to .01 diopter.

Performance Steps

1. Select lap material (plastic or foam).
2. Specify lap information.
   a. Desired base curve.
   b. Desired cross curve.
   c. Center removal (usually 1 mm).

NOTE: Do not exceed 6 mm.

   d. Pad thickness (if pad compensation is desired).
   e. Lap blank base curve.
   f. Lap blank cross curve.
   g. Center thickness of the lap blank.

NOTE: Use a thickness gauge to ensure the center thickness measurement is accurate.

3. Press the READY key.
4. Place the lap in the lap holder and tighten the allen screw.
5. Place the lap and lap holder in the generator collet.
6. Close the cover and press the START button.
7. Remove the lap from the generator when surfacing is complete.
8. Verify the accuracy of the lap with a sag gauge.

Performance Measures	**GO**	**NO GO**
1. Select lap material (plastic or foam).	____	____
2. Specify lap information.	____	____
3. Press the READY key.	____	____
4. Place the lap in the lap holder and tighten the allen screw.	____	____
5. Place the lap and lap holder in the generator collet.	____	____
6. Close the cover and press the START button.	____	____
7. Remove the lap from the generator when surfacing is complete.	____	____
8. Verify the accuracy of the lap with a sag gauge.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	LENS GENERATOR MANUAL

FINE GRIND LENS SURFACES USING AN AUTOMATIC SURFACER
081-875-4404

Conditions: You have received lenses that have been generated and require fining. The lenses are in their respective job trays with the appropriate surface worksheets. Necessary materials and equipment: automatic surfacers (finers), fining pads, clean dry towels, water, and polish pads.

Standards: Fine surface work without defects.

Performance Steps

1. Select the proper tool for fining.
   a. Select a tool matching the curves annotated on the surface worksheet.
   b. Place the right tool in the tray above the right lens.
   c. Place the left tool in the tray above the left lens.
   d. Place a fining pad on each tool.
2. Charge the fining bowl with water.
3. Load the tools with fining pads onto the automatic surfacer.
   a. Place the tools onto the surfacer tool tables (tool adapter).
   b. Ensure the tools are clamped securely in place.
4. Clamp the lenses on the tools using axis pins of the finer.

NOTE: Ensure the clamp pressure is between 14 and 22 psi.

5. Start the water pump and direct water toward the tools.
6. Fine the lenses.
   a. Set the timer to 1 1/2 minutes.

NOTE: Local SOP may require different fining times and pressures depending on multiple variable factors.

   b. Start the fining cycle.
7. Inspect the lens after fining.
   a. Remove the lens from the tool.
   b. Rinse the lens in warm water.
   c. Dry the lens with a clean dry towel or dry it in a compressed air stream.

CAUTION: Compressed air can peel skin from your hand. Ensure the air pressure at the nozzle does not exceed safety standards.

   d. Visually inspect the lens for pits, scratches, and generator marks by examining it under a white frosted light.

NOTE: Some minor flaws may require re-fining a lens for a few seconds if enough thickness remains. A blocked lens thickness gauge will determine if this option is feasible.

   e. Place the lens back in the tray.
8. Clean, dry, and pad the tool.
   a. Remove the tool from finer and rinse it in warm water.
   b. Dry the tool with a towel or in a compressed air stream.
   c. Place a polishing pad on each tool.

Performance Steps

d. Return the tools to the tray and forward the tray to the polishing section.

Performance Measures	**GO**	**NO GO**
1. Select the proper tool for fining.	____	____
2. Charge the fining bowl with water.	____	____
3. Load the tools with fining pads onto the automatic surfacer.	____	____
4. Clamp the lenses on the tools using axis pins of the finer.	____	____
5. Start the water pump and direct water toward the tools.	____	____
6. Fine the lenses.	____	____
7. Inspect the lens after fining.	____	____
8. Clean, dry, and pad the tool.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FM 8-37

POLISH LENS SURFACES USING AN AUTOMATIC SURFACER
081-875-4405

Conditions: You have received a job tray with a completed surface worksheet, fined lens blanks, and tools padded with polish pads. Necessary materials and equipment: automatic surfacer (polisher), plastic lens polish, water, clean soft cloths, and an inspection lamp.

Standards: Polish the lens blanks to a clear finish and inspect them for flaws.

Performance Steps

1. Charge the polisher bowl with plastic lens polish.
2. Load the tools with polishing pads onto the automatic surfacer.
   a. Place the tools onto the surfacer tool tables (tool adapter).
   b. Ensure the tools are clamped securely in place.
   c. Wet the polish pad with polish.
3. Clamp the lenses on the tools using the axis pins of the polisher.

NOTE: Ensure the clamp pressure is between 20 and 28 psi.

4. Start the polish pump and direct polish toward the tools.
5. Polish the lenses.
   a. Set the timer to 6 minutes.

NOTE: Local SOP may require different polishing times and pressures depending on multiple variable factors.

   b. Start the polishing cycle.
6. Inspect the lens after polishing.
   a. Remove the lens from the tool and rinse it in warm water.
   b. Dry the lens with a clean soft cloth or dry it in a compressed air stream.

CAUTION: Compressed air can peel skin from your hand. Ensure the air pressure at the nozzle does not exceed safety standards.

   c. Visually inspect the lens for grey, pits, scratches, and waves by examining it under an unfrosted blue light.

NOTE: Some minor flaws may require re-fining a lens for a few seconds if enough thickness remains. A blocked lens thickness gauge will determine if this option is feasible.

   d. Forward the lenses to the deblocking section.
7. Clean the tool and return it to the tool selection section.
   a. Remove the tool from the finer.
   b. Remove the polishing pad and rinse the tool in warm water.
   c. Return tools to the tool section.

Performance Measures	**GO**	**NO GO**
1. Charge the polisher bowl with plastic lens polish.	____	____
2. Load the tools with polishing pads onto the automatic surfacer.	____	____

Performance Measures	GO	NO GO
3. Clamp the lenses on the tools using the axis pins of the polisher.	____	____
4. Start the polish pump and direct polish toward the tools.	____	____
5. Polish the lenses.	____	____
6. Inspect the lens after polishing.	____	____
7. Clean the tool and return it to the tool selection section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	FM 8-37

DEBLOCK LENSES

081-875-4364

Conditions: You have received a job tray with finished surface work which needs to be deblocked. Necessary materials and equipment: a deblocker attached to an air supply of 80 psi, clean water, and washing solution.

Standards: The lenses are deblocked, cleaned, inspected for flaws, and forwarded to the fabrication section. The blocks are cleaned, dried, and returned to the blocking section. The blocking material is clean, dry, and kept free from contamination for reuse.

Performance Steps

1. Remove all polish from the blocked lenses.
2. Place a lens in the deblocker with the block down.

NOTE: Impact deblocking is an alternative, field expedient method. This requires a deblocking ring and a flat surface to impact the blocking ring against. Place the lens in the deblocking ring with the block down and the lens resting on the protective rubber ring. Sharply impact the bottom of the deblocking ring on a flat surface. The block will release and fall through the ring while the lens remains on the protective rubber ring.

3. Push the valve button and hold it until the lens is deblocked.
4. Wash the lenses in the lens washer with washing solution to remove all blocking material.

CAUTION: Do not reclaim blocking material that has been exposed to washing solution.

5. Inspect surfaced lenses.
   a. Hold the lens up to a light source.
   b. Inspect the lens for cracks, chips, waves, grey, pits,cratches, defects, and dirt.
   c. Return each lens to the proper tray.
   d. Forward good lenses to fabrication.
6. Return the blocks, clean and dry, to the blocking section.
7. Place blocking material in a dust free container until reuse.

Performance Measures	GO	NO GO
1. Remove all polish from the blocked lenses.	____	____
2. Place a lens in the deblocker with the block down.	____	____
3. Push the valve button and hold it until the lens is deblocked.	____	____
4. Wash the lenses in the lens washer with washing solution to remove all blocking material.	____	____
5. Inspect surfaced lenses.	____	____
6. Return the blocks, clean and dry, to the blocking section.	____	____

Performance Measures	**GO**	**NO GO**
7. Place blocking material in a dust free container until reuse.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	DEBLOCKER MANUAL

Subject Area 3: Equipment Maintenance

PERFORM PMCS ON A LENSOMETER
081-875-4389

Conditions: Necessary materials and equipment: lensometer instruction manual, clean soft rags, water, ink, hand tools, oil, a known power lens, light bulbs (G.E. No. 25s11/5c or equivalent), test lens set # 21-65-77, a plus five diopter lens, and ink roller pad replacement kit.

Standards: The lens measuring instrument must be clean, properly calibrated, and operational.

Performance Steps

1. Perform procedures at the beginning of each day.
   a. Wipe the telescope objective and eyelens with a clean soft cloth.

NOTE: Internal lenses may be cleaned as needed.

   b. Inspect the inking attachment.
      (1) Ensure the ink roller pad is serviceable. If the ink roller pad is worn, replace it (see step 3a).
      (2) Ensure the inkwell is not clogged with dried ink. If the inkwell is clogged, detach the inkwell assembly and thoroughly wash it with water before refilling it with ink.
   c. Ensure the light bulb is operational. If not, replace it (see step 3b).
   d. Ensure that the eyepiece is focused for a clear target reading when the power wheel is set at 0 diopters.
   e. Ensure that the target is centered (no more than 1/4 diopter prism).
      (1) Remove the cover to expose three adjustment screws.
      (2) Loosen two screws and tighten the opposite screw to center the target.
      (3) Verify that the target is centered and replace the cover.

NOTE: If the target rotates around center, the manufacturer's instructions are required to properly adjust it. It is very difficult to recalibrate the lensometer if the target is adjusted on the power assembly.

   f. Using a known power lens, check the power wheel and axis wheel readings. If the readings are off more than .125 diopters, adjust the power and axis drums by loosening the knob set screw on the power or axis wheel and resetting as required.

NOTE: Axis may also be adjusted by loosening the four eyepiece screws and rotating the eyepiece.

   g. Verify the power at zero (no lens) and at plus and minus 12.00 diopters with the test lens set. Calibrate, if necessary, by adjusting the lens stop in or out.
   h. Ensure smooth operation of the marking device. If the marking device does not operate smoothly, wipe and lightly oil the marking device axle and guide plunger. If the pins stick, remove the pin spring cover and remove excess ink with hot water.

CAUTION: Do not flood the exposed moving parts with oil. Use the minimum amount of oil needed.

   i. Verify spotter calibration.
      (1) Spot a five diopter lens.
      (2) Rotate the lens 180 degrees and respot it.
      (3) Make necessary adjustments so that the center dots overlap.

Performance Steps

2. Perform procedures at the end of each day.
   a. Turn off the power.
   b. Clean the exterior of the instrument.
   c. Cover the instrument with the dust cover.

3. Perform operator repairs as needed.
   a. Replace the ink roller pad.
      (1) Open the inkwell and remove the roller.
      (2) Remove the two spring clips holding the old ink pad and discard both the clips and the pad.
      (3) Wipe the ink roller clean.
      (4) Remove the paper backing from the new ink roller pad by flexing it a few times and peeling off the smooth paper backing from the adhesive surface.
      (5) Lay the new pad on a flat surface with the adhesive side up.
      (6) Carefully align the roller with one end of the pad and pressing firmly, roll the roller across the pad, wrapping the pad around twice.
      (7) Slightly spread the new spring clips and slip them over each end of the roller. Position the clips about 3/8 inch in from each end of the pad.
      (8) Replace the roller in the inkwell. Make sure the spring clips do not obstruct the marking pen holes.
   b. Replace the light bulb.

CAUTION: Ensure the power cord is disconnected before working with electrical components.

      (1) Set the power drum to approximately minus 17.
      (2) Lift off the access cover on the right side of the instrument.
      (3) Use the assembly lever to swing the bulb and socket assembly out.
      (4) Replace the bulb and swing the assembly back into place.
      (5) Replace the access cover.
      (6) Reconnect the power and check operation.

NOTE: Replacement bulbs can be locally purchased as G.E. No. 25s11/5c.

   c. Tighten excessive looseness of the power wheel, axis wheel, or lens table.
      (1) Remove the cover to expose the pressure adjustment pivots.
      (2) Clean and lubricate before adjusting.
      (3) Tighten the adjustment only by small amounts and frequently check the movement of the component.

CAUTION: Do not overtighten.

Performance Measures	**GO**	**NO GO**
1. Perform procedures at the beginning of each day.	____	____
2. Perform procedures at the end of each day.	____	____
3. Perform operator repairs as needed.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
LENSOMETER MANUAL	FM 8-37

PERFORM PMCS ON A FABRICATION BLOCKER
081-875-4410

Conditions: Necessary materials: marker/blocker operation and maintenance instructions, teflon or silicon lubricant, screwdrivers, allen wrenches, light bulb, pencil, soft cloth, glass cleaner, wrenches, and replacement block adapters.

Standards: You must clean, lubricate, calibrate, and repair the fabrication blocker ensuring accuracy and operability.

Performance Steps

1. Lubricate the sliding shaft, as needed, with a teflon or silicone lubricant.

CAUTION: Do not use petroleum based lubricants.

2. Replace the layout scale.
    a. Center the layout scale at 0,0.
    b. Loosen the set screws and remove the lens support plate.
    c. Remove the layout scale with a small screwdriver.
    d. Replace the layout scale, ensuring the zeros are lined up with the 180 and 90 degree alignment lines.
    e. Replace the lens support plate and slowly tighten the set screws.

NOTE: Some manufacturer's marker/blockers can be left/right and up/down calibrated by loosening the covered adjustment screws on the face of the lens support plate assembly.

3. Replace the light bulb.

CAUTION: Ensure that the power switch is turned off and the bulb is cool.

    a. Holding the U bracket out of the way, turn the bulb 1/4 turn counterclockwise and remove it.
    b. Push the new light bulb in and turn it 1/4 turn clockwise.

4. Clean the mirrors.
    a. Use a pencil to trace an outline to mark the mounting position of the lens layout and support assembly.
    b. Loosen the screws holding the assembly and lift out the assembly.

NOTE: Some manufacturer's lower mirrors can be accessed by removing the view port instead of removing the lens layout and support assembly.

    c. Clean the upper mirror and lower mirrors with a soft cloth and glass cleaner.
    d. Replace and secure the lens layout and support assembly.

5. Adjust the sliding block down stop.

NOTE: This adjustment may be necessary to limit the downward travel of the sliding block assembly and avoid damage to the lens and/or the lens support pin cap.

    a. Use a wrench to loosen the nut holding the sliding block down stop adjustment screw.
    b. Slowly bring down the sliding block assembly and adjust the adjustment screw while the sliding block is down.
    c. Tighten the nut with a wrench.

Performance Steps

6. Replace the block adapter.
    a. Remove the two screws holding the block adapter.
    b. Replace it with a new or repaired block adapter by placing it back in the U bracket, using the guide pin.

NOTE: A blocking adapter is repaired by replacing the squeeze levers or filing the edges of the old squeeze levers to allow the levers to grip the block.

    c. Replace and tighten the screws, ensuring that the rear edge of the blocking adapter is in contact with the axis adjustment screw.

7. Adjust the axis.

NOTE: Some manufacturer's marker/blockers do not have an axis adjustment.

    a. Check the blocking adapter alignment with axis 180 on a blocked lens.

NOTE: An axis alignment grid or pattern blank may also be used.

    b. If the three dots are offset by an equal amount in the same direction, there is no need for an axis adjustment, but the up and down adjustment screw needs adjustment. If one side is not aligned or if the axis of the block is not parallel with the three dots on the lens, then axis adjustment is needed.
    c. Loosen (do not remove) the two screws holding the blocking adapter.
    d. If the left dot is below the axis line, turn the axis adjustment screw to allow the blocking adapter to turn clockwise.
    e. If the left dot is above the axis line, turn the axis adjustment screw to allow the blocking adapter to turn counterclockwise.
    f. Tighten the screws holding the blocking adapter.

NOTE: The blocking adapter should rest against the axis adjustment screw.

8. Replace worn rubber lens support pins or pin caps.

Performance Measures	**GO**	**NO GO**
1. Lubricate the sliding shaft.	____	____
2. Replace the layout scale.	____	____
3. Replace the light bulb.	____	____
4. Clean the mirrors.	____	____
5. Adjust the sliding block down stop.	____	____
6. Replace the block adapter.	____	____
7. Adjust the axis.	____	____
8. Replace worn rubber lens support pins or pin caps.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
MARKER/BLOCKER MANUAL	None

PERFORM PMCS ON AN EDGER

081-875-4392

Conditions: Necessary materials: acetone, alcohol, lens clamp O-ring, motor brushes, small container, small brush, adhesive, scrap lens, replacement vacuum bags and filter, cutter blade inserts, edger instruction manual, and the manufacturer's supplied accessory kit.

Standards: The edger must be clean. The edger must be operational and connected to a dry air supply. Guides and O-rings must be smooth and properly set. The vacuum bags and filter must be replaced. The cutter blades must be replaced.

Performance Steps

1. Perform daily PMCS.
    a. Clean the interior of the edger.
        (1) Switch the power of the edger to the OFF position.
        (2) Remove the 2.5 inch hose from the vacuum canister. Attach the 1.5 inch hose fitted with the crevice tool.

NOTE: Ensure the vacuum hoses do not have leaks.

        (3) Move the toggle switch on the back right corner of the edger to the down position. This will turn on the vacuum independent of the edger's operation.
        (4) Vacuum debris from the interior of the edger with the crevice tool and a small brush, being careful not to disturb the control wiring.
        (5) Reverse steps 1a(3) and 1a(2) to return the edger to normal operation.
    b. Drain any accumulated moisture from the air filter/regulator assembly by pressing up on the valve stem located at the bottom of the bowl.
    c. Check the air pressure. The pressure gauge located on the right side of the edger should read 80 psi. If the pressure drops too low, lens slippage could occur. For normal operations, the tracking gauge should read 40 psi.

CAUTION: This equipment has pneumatic cycle controls and will have numerous problems if the pressure drops too low.

    d. Check the teflon ring for wear and contamination. Replace nicked, gouged, or rough teflon guide rings.
    e. Check the height of the bevel guide wheel. The distance between the cutting edge of the cutter and the flat underside of the bevel guide wheel should be 1 to 1.5 mm.

NOTE: Use the cam guide wheel for smaller eye sizes to prevent off-shape lenses or humps.

    f. Check the O-ring in the lens clamp. If the O-ring is torn or compressed excessively, replace it.
        (1) Remove the mounting screw running through the right side of the clamp arm. Remove the clamp assembly. Do not remove the brass swivel from the clamp body.
        (2) Place the clamp assembly in a small container, O-ring down.
        (3) Add only enough acetone to just cover the O-ring. Do not use so much as to contact the stainless steel clamp body. The O-ring will swell and the adhesive will release after 15 to 20 minutes.
        (4) Remove the O-ring, clean the clamp assembly, and allow it to dry.
        (5) Spread about two drops of cyanoacrylate super adhesive (NSN 8040-00-142-9193 or equivalent) throughout the groove of the brass swivel.

Performance Steps

(6) Place a new O-ring in the groove. Place the clamp assembly on the clamp arm and clamp on a scrap lens. Allow it to set for 2 minutes.

g. Clean the exterior of the edger
   (1) Vacuum around the edge and underneath the edger.
   (2) Wipe down the machine housing with a clean cloth. Use a mild detergent if necessary.

2. Clean the cutter motor biweekly. Use the safety air gun supplied in the accessory kit to thoroughly blow out the vents in the cutter motor.

3. Perform monthly PMCS.
   a. Inspect the cutter motor brushes for wear.

NOTE: Newer edgers have brushless motors. These edgers have quieter operation and less maintenance.

   (1) Turn the edger power switch and cutter motor toggle switch to the OFF position.
   (2) Unscrew the brush caps at the rear of the motor and remove the brushes.
   (3) Measure the brushes. Replace brushes that are worn to a length of 3/8 inch or less. New brushes are 3/4 inch long.

   b. Inspect the lens and pattern clamp assemblies for wear. Apply hand pressure to the clamps and rotate them. The clamps should turn smoothly. If any rough areas are detected, the clamps should be replaced.

4. Perform as needed PMCS.
   a. Change the vacuum bags every 300 to 500 cycles or when filled to 2/3 capacity.
      (1) Disconnect power from the vacuum unit.
      (2) Release the three restraining clamps on the vacuum unit and remove the vacuum head.
      (3) Replace the collection bag if filled to 2/3 capacity.
      (4) Remove the spring clamp holding the filter bag on the inlet cage.
      (5) Remove the filter bag and inspect the foam filter on the inlet cage for tears or holes. Clean or replace as necessary.
      (6) Slip a new filter bag over the inlet cage and foam filter. Secure the filter bag with the spring clamp.
      (7) Clamp the head of the vacuum unit on the vacuum canister.
   b. Replace the cutter inserts every 500 cycles

CAUTION: Even worn cutter blade inserts are extremely sharp and may cause lacerations if handled carelessly.

   (1) Turn off power to the cutter motor.
   (2) Loosen the collet nut and remove the cutter assembly.
   (3) Remove the old inserts and discard or send them out for resharpening IAW local SOP.
   (4) Thoroughly clean the cutter body with compressed air and a small brush. Alcohol or acetone may be required.

CAUTION: Compressed air can peel skin from your hand. Ensure the air pressure at the nozzle does not exceed safety standards.

   (5) Remove and thoroughly clean the collet and collet nut. Reinstall the collet and collet nut.

Performance Steps

(6) Insert a fresh set of cutter blades into the cutter body.
(7) Slide the cutter assembly into the motor until it contacts the collet nut. Hand tighten the collet.
(8) Ensuring that the cutter assembly maintains contact with the face of the collet, tighten the collet nut with the wrenches provided in the accessory kit.
(9) Verify the size of a cut lens. Adjust as necessary.

c. Inspect the lens and pattern clamp assemblies every 2500 cycles IAW the monthly PMCS procedure.
d. Check the axis of the edger by cutting a pattern blank. Off axis can be caused by gear lash or a worn lens drive assembly. The axis can be adjusted at the pattern clamp.
e. Check carriage and cutter assembly movement.
(1) Disconnect the air supply.
(2) Move the carriage and cutter assemblies on roundways, checking for resistance to movement.
(3) Clean and lubricate the bearings with penetrating oil.

NOTE: It may be necessary to turn the unit over to access the bearings from underneath.

(4) Remove all excess oil with a clean dry cloth.
(5) Reconnect the air supply.

f. Check the locking screws on the bevel control and size control. Tighten them while turning the controls to avoid overtightening.

Performance Measures	**GO**	**NO GO**
1. Perform daily PMCS.	____	____
2. Clean the cutter motor biweekly.	____	____
3. Perform monthly PMCS.	____	____
4. Perform as needed PMCS.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
LENS EDGER MANUAL	FM 8-37

PERFORM PMCS ON A TINT UNIT

081-875-4414

Conditions: Necessary materials: clean cloth, water, dye, dye tanks, 220 degree F thermometer, and heat transfer fluid.

Standards: The dye bath and surrounding area are free of chemical spills and dirt. The dye tanks are heating dye to the dye manufacturer's specified temperature. The dye is not too old or contaminated to prevent good color absorption.

Performance Steps

1. Verify that the dye bath thermostat keeps dye at the proper operating temperature IAW the dye manufacturer's specifications.

NOTE: Do not allow the thermometer to touch the side of the dye bath.

2. Wipe down the outside of the dye tanks and the surrounding area with a damp cloth.

3. Replace old or contaminated dye.

NOTE: Dye can be contaminated from dirt or other chemicals such as heat transfer fluid, different dyes, or neutralizer.

4. Replace contaminated heat transfer fluid.

CAUTION: Dye contamination of the heat transfer fluid can cause corrosion of the heating elements, dangerous overheating, and premature failure of the unit.

WARNING: Heat transfer fluid is a hazardous substance. Overheating can be dangerous. Spills should be avoided.

Performance Measures	**GO**	**NO GO**
1. Verify that the dye bath thermostat keeps dye at the proper operating temperature IAW the dye manufacturer's specifications.	____	____
2. Wipe down the outside of the dye tanks and the surrounding area with a damp cloth.	____	____
3. Replace old or contaminated dye.	____	____
4. Replace contaminated heat transfer fluid.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FM 8-37

PERFORM PMCS ON A SURFACE BLOCKER

081-875-4411

Conditions: Necessary materials and equipment: blocker maintenance manual, a small container, glass cleaner, a clean dry cloth, and a small screwdriver.

Standards: The blocker must be clean and free of water in the air filter, foreign material, blocking material buildup and contaminants in the blocking material.

Performance Steps

1. Perform daily preventive maintenance and cleaning.
   a. Drain any water that may have collected in the air filter by depressing the valve located at the bottom of the glass bulb. Collect the water in a small container and dispose of it.
   b. Ensure the input compressed air regulator is set to a minimum of 80 psi.
   c. Wipe down the glass viewer with an appropriate glass cleaner.
   d. Clean any foreign material from the vacuum transport.

2. Perform weekly preventive maintenance and cleaning.
   a. Vacuum any foreign material from the keyboard.
   b. Remove any foreign material from the chill ring.
   c. Remove the four small screws on the top of the elevator plate and lift out the elevator plate.
      (1) Remove the spring and washer and clean both.
      (2) Carefully remove any built-up blocking material.
      (3) Operate the elevator for diagnostic purposes.
      (4) Assemble the spring and washer and then the elevator plate. Ensure that the finger springs on the elevator plate are not inducing any prism.

3. Perform monthly preventive maintenance and cleaning.
   a. Remove the cover and wipe the vacuum transport's roundway with a clean dry cloth.

NOTE: If the transport binds on the roundway, it may become necessary to lubricate the bearings on the roundway. Remove all excess oil from the roundway.

   b. Change or clean the blocking material as needed.
   c. Check the reservoir for foreign objects.
   d. Clean foreign material from pulleys.

NOTE: Refer to the blocker maintenance manual for troubleshooting and adjustment procedures in the event of malfunction.

Performance Measures	**GO**	**NO GO**
1. Perform daily preventive maintenance and cleaning.	____	____
2. Perform weekly preventive maintenance and cleaning.	____	____
3. Perform monthly preventive maintenance and cleaning.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
SURFACE BLOCKER MANUAL	FM 8-37

PERFORM PMCS ON A LENS GENERATOR

081-875-4412

Conditions: Necessary materials: lens generator operation and maintenance manual, a clean cloth, spray lubricant, grease, and tools.

Standards: The lens generator will be operational and clean. The dust collector will be empty. There will be no water in the air filter.

Performance Steps

1. Perform daily maintenance.
    a. Vacuum the generator interior, paying particular attention to the cutting chamber around the chuck, tool guard, chip chute, and the sliding seal.

NOTE: Foreign material in the chuck can cause unwanted prism.

    b. Wipe off the inner and outer plastic covers with a clean dry cloth.
    c. Empty the dust collector. Ensure that the dust collector is not clogged and is operating correctly.

NOTE: Vacuums tend to loose suction as the dust collection bags are filled past half full.

    d. Drain accumulated water from the air filter on the rear of the generator by depressing the valve button.

NOTE: Drain accumulated water more often, if necessary, to prevent water from collecting in the chuck and causing rust.

    e. Change the cutting tool IAW the generator operation and maintenance manual whenever the cutter is worn.

NOTE: Bogged down motor performance or the need to increase fining time are indicators of a worn cutter.

    f. Clean the chuck with a mild detergent, and then lubricate the chuck face and pins with a spray lubricant.

2. Perform monthly maintenance.
    a. Flush and lubricate bearings with spray lubricant.
    b. Wipe the roundways with a dry, clean cloth.
    c. Clean or replace internal or exhaust air filters.
    d. Inspect the door opening gears and lubricate if dry with a small amount of grease on the gear teeth.
    e. Wipe off any foreign material accumulated on the generator's moving parts.

3. Perform quarterly maintenance.
    a. Check the chuck air pressure with the chuck activated. Adjust to 50 to 60 psi with the regulator.
    b. Check and, if necessary, adjust the backlash between the gears and pinions on the servomotor.
    c. Check and, if necessary, adjust the spindle guide bearings IAW equipment operator and maintenance manual.
    d. If your generator has a brush type motor, inspect the cutter motor brushes IAW the manufacturer's specifications.

4. Remove, clean, and regrease the seals on the cutter spindle yearly.

CAUTION: Failure to provide uninterruptible voltage and frequency stabilized electrical power will result in serious and expensive damage to computer controlled equipment.

Performance Measures	**GO**	**NO GO**
1. Perform daily maintenance.	____	____
2. Perform monthly maintenance.	____	____
3. Perform quarterly maintenance.	____	____
4. Remove, clean, and regrease the seals on the cutter spindle yearly.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
LENS GENERATOR MANUAL	FM 8-37

PERFORM PMCS ON AN AUTOMATIC LENS SURFACER
081-875-4413

Conditions: Necessary materials: surfacer maintenance manual, hand tools, rags, water, slurry, axis block set, lubricants, thin plastic wrap, and pins.

Standards: The surfacer must be clean and lubricated. The axis is aligned, and the baffles are in good repair.

Performance Steps

1. Check the baffles for tears or punctures. Replace them if they are damaged.

NOTE: Check the inside of the unit for leaks, which indicate primary baffle damage.

2. Lubricate the unit IAW the surfacer maintenance manual.

CAUTION: Failure to keep automatic oilers filled within maintenance specifications can cause pneumatic clamp problems.

NOTE: Ensure that you use the manufacturer's recommended lubricants and schedule, which differ with brand of surfacer.

3. Flush slurry from the pump system at the end of each day.

NOTE: Slurry may be stored and reused if production is low. Replace slurry daily in high production facilities.

4. Wipe spilled slurry from machine surfaces with rags and water.

CAUTION: Keep moisture away from timers. They are very fragile and expensive. Covering the control panel with thin plastic wrap will also keep the controls clean.

5. Check the pins and pin holders for wear.
6. Align the axis whenever pins or pin holders are replaced.
   a. Clamp the lower keyed half of the axis block set on the tool table, as if it were a lap tool.
   b. Align the slot on the top half of the axis block set with the pins on the clamp and actuate the clamp switch.

CAUTION: Do not get your fingers caught between the axis block set halves when the clamp switch is actuated.

   c. Rotate the spindle by moving the lower belt on the right spindle until the front edges of the axis blocks come into line. If adjustment is necessary for the front edges to line up flush, loosen the screw holding the tool pin holder to the upper arm and align the halves of the axis block before tightening the screw.

7. Check adjustment of the gimbles by firmly grasping the tool table and attempting to move it up and down or left and right. If movement is detected, refer to the surfacer maintenance manual for adjustment procedures.

CAUTION: Overtightening can damage the thrust bearings.

Performance Measures	**GO**	**NO GO**
1. Check the baffles for tears or punctures. Replace them if they are damaged.	____	____
2. Lubricate the unit IAW the surfacer maintenance manual.	____	____
3. Flush slurry from the pump system at the end of each day.	____	____
4. Wipe spilled slurry from machine surfaces with rags and water.	____	____
5. Check the pins and pin holders for wear.	____	____
6. Align the axis whenever pins or pin holders are replaced.	____	____
7. Check adjustment of the gimbles by firmly grasping the tool table and attempting to move it up and down or left and right. If movement is detected, refer to the surfacer maintenance manual for adjustment procedures.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
LENS SURFACER MANUAL	FM 8-37

PERFORM PMCS ON A DEBLOCKER

081-875-4374

Conditions: Necessary materials and equipment: deblocker maintenance manual and a small container.

Standards: The deblocker is clean and free of water in the air filter.

Performance Steps

1. Perform daily preventive maintenance and cleaning.
   a. Drain any water that may have collected in the air filter by depressing the valve located on the rear of the deblocker. Collect water in a small container and dispose of it.
   b. Clean any blocking material buildup away from the moving jaw and the fixed jaw.
2. Ensure the incoming air pressure is 80 psi minimum.
3. Ensure the air pressure regulator is adjusted to 50 psi.

NOTE: Refer to the deblocker maintenance manual for troubleshooting and adjustment procedures in the event of malfunction.

Performance Measures	**GO**	**NO GO**
1. Perform daily preventive maintenance and cleaning.	____	____
2. Ensure the incoming air pressure is 80 psi minimum.	____	____
3. Ensure the air pressure regulator is adjusted to 50 psi.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
DEBLOCKER MANUAL	FM 8-37

Subject Area 4: Optical Unit Assemblage

MAINTAIN AN OPTICAL FABRICATION UNIT ASSEMBLAGE
081-875-4431

Conditions: Given an Optical Fabrication Unit Assemblage. Necessary materials and equipment: Optical Fabrication Unit Assemblage, line item hand receipt, equipment/supply request forms.

Standards: Maintain the Optical Fabrication Unit Assemblage at required operating levels with all necessary optical equipment and supplies.

Performance Steps

1. Identify Optical Fabrication Unit Assemblage.
    a. UA3003 is a 2-Man Divisional Level Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3003 containers requires a 2-man lift.

    b. UA3004 is a 5-Man Corp Level Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3004 containers requires a fork-lift.

    c. UA3005 is a 12-Man EAC Level Multi/Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3005 containers requires a fork-lift.

2. Perform PMCS.

CAUTION: Handling Optical Fabrication Unit Assemblage containers requires a 2-man lift.

    a. Inspect the exterior of each field container for cleanliness and damage.
        (1) Ensure retaining latches are functioning properly.
        (2) Ensure handles are functioning properly.
    b. Inspect the interior of each container.
        (1) Ensure packing foam is serviceable.

3. Ensure all optical equipment is accounted for and in serviceable condition.

4. Ensure all optical supplies are at required operating levels.

NOTE: Ensure Optical Fabrication Unit Assemblage matches hand-receipt authorization levels.

5. Reorder optical equipment and supplies as needed.
        (1) Ensure supplies are maintained at required operating levels.

6. Repack and store Optical Fabrication Unit Assemblage in a secure area.

Performance Steps

CAUTION: Handling Optical Fabrication Unit Assemblage containers exposes personnel to numerous pinch-points.

Performance Measures	**GO**	**NO GO**
1. Identify Optical Fabrication Unit Assemblage.	____	____
2. Perform PMCS.	____	____
3. Ensure all optical equipment is accounted for and in serviceable condition.	____	____
4. Ensure all optical supplies are at required operating levels.	____	____
5. Reorder required equipment and supplies as needed.	____	____
6. Repack and store Optical Fabrication Unit Assemblage in a secure area.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	ARTEP

SET UP AN OPTICAL FABRICATION UNIT ASSEMBLAGE
081-875-4423

Conditions: Given an Optical Fabrication Unit Assemblage. Necessary materials and equipment: Optical Fabrication Unit Assemblage, sufficient power source, line item hand receipt.

Standards: Set-up the Optical Fabrication Unit Assemblage with all required optical equipment and supplies.

Performance Steps

1. Identify Optical Fabrication Unit Assemblage.
    a. UA3003 is a 2-Man Divisional Level Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3003 containers requires a 2-man lift.

    b. UA3004 is a 5-Man Corp Level Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3004 containers requires a fork-lift.

    c. UA3005 is a 12-Man EAC Level Multi/Single-Vision Fabrication Lab.

CAUTION: Handling Optical Fabrication Unit Assemblage UA3005 containers requires a fork-lift.

2. Identify deployment area.
    a. Ensure Optical Fabrication Unit is located as far possible from high traffic areas.

3. Ensure an appropriate power source is available.

NOTE: Optical Fabrication Unit Assemblages require a specific power level.

    a. UA3003 requires 30 AMPS. A 10KW Power Generator will provide sufficient power.
    b. UA3004 requires 50 AMPS. A 15KW Power Generator will provide sufficient power.
    c. UA3005 requires 120 AMPS. A 30KW Power Generator will provide sufficient power.

4. Setup Optical Fabrication Unit Assemblage.

NOTE: Following steps apply to UA 3003. Layout of any optical lab should provide continuity to workflow.

    a. Setup UA3003 Single-Vision Optical Fabrication Unit, Divisional Level.
        (1) Editing Section.
        (2) Blocking Section.
        (3) Edging Section.
        (4) De-blocking/Beveling Section.
        (5) Tint Section.
        (6) Lens Insertion Section.
        (7) Final Inspection Section.
        (8) Mailroom Section.

Performance Steps

NOTE: Following steps apply to UA 3004. Layout of any optical lab should provide continuity to workflow.

b. Setup UA3004 Single-Vision Optical Fabrication Unit, Corp Level.
   (1) Editing Section.
   (2) Blocking Section.
   (3) Edging Section.
   (4) De-blocking/Beveling Section.
   (5) Tint Section.
   (6) Lens Insertion Section.
   (7) Final Inspection Section.
   (8) Mailroom Section.

NOTE: Following steps apply to UA 3005. Layout of any optical lab should provide continuity to workflow.

c. Setup UA3005 Multi/Single-Vision Optical Fabrication Unit, EAC Level.

NOTE: Steps 1-11 apply to Surface Department.

   (1) Editing Section.
   (2) Surface Write-up Section.
   (3) Lens Pull Section Section.
   (4) Blocking Section.
   (5) Generating Section.
   (6) Lap Section.
   (7) Surfacing Section.
   (8) Polishing Section.
   (9) De-blocking Section.
   (10) Inspection Section.
   (11) Forward to Fabrication Department.

NOTE: Steps 12-19 apply to Fabrication Department.

   (12) Editing Section.
   (13) Blocking Section.
   (14) Edging Section.
   (15) De-blocking/Beveling Section.
   (16) Tint Section.
   (17) Lens Insertion Section.
   (18) Final Inspection Section.
   (19) Mailroom Section.

5. Re-deploy Optical Fabrication Unit Assemblage.
   a. Prepare Optical Fabrication Unit Assemblage for transport.
      (1) Repack all equipment and supplies in original containers.

CAUTION: Handling Optical Fabrication Unit Assemblage containers exposes personnel to numerous pinch-points.

Performance Measures	**GO**	**NO GO**
1. Identify Optical Fabrication Unit Assemblage.	____	____
2. Identify deployment area.	____	____
3. Ensure an appropriate power source is available.	____	____

Performance Measures	**GO**	**NO GO**
4. Setup Optical Fabrication Unit Assemblage.	____	____
5. Re-deploy Optical Fabrication Unit Assemblage.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	None

Subject Area 5: Basic Administration

ORDER SUPPLIES AND EQUIPMENT
101-521-1151

Conditions: You have been directed to prepare a request for supplies. Necessary materials and documents: Authorization documents, blank request forms, and document register.

Standards: Prepare a supply request without rejection from the supply support activity (SSA).

Performance Steps

1. Screen items requested for proper authorization.
   a. The Army Authorized Document System (TAADS) is an Army wide system designed to centralize the control of personnel and equipment required by the authorized Army units or organizations.
   b. Examples of authorized documents are:
      (1) Modification Table of Organization and Equipment (MTOE).
      (2) Table of Distribution and Allowances (TDA).
      (3) Common Table of Allowances (CTA).
   c. Each unit or organization has an authorization document that is used to identify personnel and equipment authorizations.
2. Compile identification data on items to be requested.
3. Select appropriate request forms.
4. Prepare a request for a single or multiple line item item request.
5. Enter the request on a document register.
6. Enter the document number on the request document.
7. Forward the request form to the SSA.

Performance Measures	**GO**	**NO GO**
1. Screen items requested for proper authorization.	____	____
2. Compile identification data on items to be requested.	____	____
3. Select appropriate request forms.	____	____
4. Prepare a request for a single or multiple line item item request.	____	____
5. Enter the request on a document register.	____	____
6. Enter the document number on the request document.	____	____
7. Forward the request form to the SSA.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	AMDF AR 710-2 DA PAM 25-30 DA PAM 710-2-1 SB 700-20

PREPARE A QUARTERLY OPTICAL LABORATORY REPORT (DA FORM 2717)
081-875-4475

Conditions: You must fill out DA Form 2717 IAW AR 40-61, AR 37-100, and AR 37-1. Necessary materials: blank DA Form 2717, production data for the reporting period, and a copy of DA Form 2717 from the previous production period.

Standards: The DA Form 2717 must be filled out accurately reflecting workload accomplished in the past production period and the backlog of uncompleted work, divided by categories IAW AR 40-61 and AR 40-63.

Performance Steps

1. Fill out section A, Summary of Workload.
    a. Lines 1 through 5. Record data in Columns "c" through "h" with a total of all reportable elements in Column "b".
        (1) Record active military personnel in Columns "c", "d", and "e", as appropriate. (Marines are recorded in column "e").
        (2) Record retired personnel of all military services and their dependents in Column "f".
        (3) Record dependents of active military personnel in Column "g".
        (4) Record all other personnel authorized spectacles in Column "h".
    b. Line 1. Record the number of spectacles which remained to be fabricated at the end of the previous production period.
    c. Line 2. Record the number of spectacles prescribed by eye clinics on DD Form 771 during the reporting period.
    d. Line 3. Total lines 1 and 2.
    e. Line 4. Record the total number of spectacles and allied devices fabricated by the laboratory or unit during the reporting period, including pairs that were fabricated by commercial facilities.

NOTE: Individual lens replacement, that does not involve replacement of the frame, will not be included on line 4.

    f. Line 5. Record the number of spectacles remaining to be processed at the end of the reporting period.

2. Fill out section B, Breakdown of Pairs of Spectacles Fabricated.
    a. Enter all standard frames fitted with standard lenses on lines 6 through 10.
    b. Enter any pairs of spectacles fitted with at least one nonstandard component (frame or lens) on lines 12 and 13.
    c. Total lines 11 and 14. This total should equal line 4, Section A.

3. Fill out section C, Lens Surfacing.
    a. Enter the total number of single lenses which required sphere surfacing on line 15.
    b. Enter the total number of single lenses which required cylinder surfacing on line 16.

4. Fill out section D, Prescription Referrals.
    a. Write the short title of the optical laboratory to which spectacle prescriptions are referred when fabrication is beyond the capacity of the reporting laboratory, on line 17.
    b. Write the total number of pairs of spectacles referred to the supporting optical laboratory on line 18.

5. Fill out section E, Reimbursement Spectacles.

Performance Steps

a. Enter the total number of pairs of spectacles reported on line 4 for which reimbursement was required by AR 40-63, on line 19.
b. Enter the dollar amount received as reimbursement for the pairs entered on line 19 on line 20.

6. Fill out section F, Special Procedures.
   a. Enter the number of spectacles fabricated with tinted lenses on line 21. Line 22 will document the number of tinted aviation spectacles and line 23 will document all other frames issued with tinted lenses.
   b. Enter the number of spectacles fabricated with coated lenses on line 24. Line 25 will document the number of coated spectacles and line 26 will document the number of spectacles issued with special coated lenses.
   c. Enter the number of pairs manufactured with industrial safety thickness lenses (3 mm minimum thickness) on line 27.
   d. Enter the number of pairs fabricated by contract on line 28.
   e. Enter the number of individual lens replacements made without any frame replacement on line 29.

7. Fill out section G, Personnel Strength.
   a. Enter the TO&E or TDA authorized strength for the laboratory at the end of the reporting period on line 30.
   b. Report actual strength on line 31.
      (1) For military, enter personnel strength on hand as indicated on the morning report at the end of the reporting period.
      (2) For civilians, enter personnel strength (including foreign nationals) as of the end of the reporting period.

8. Fill out section H, Cost Data.

NOTE: This section will be completed only by optical laboratories and units operating in CONUS facilities and overseas depots.

   a. In block 33, enter the cost of component parts for spectacles and allied ocular devices.
   b. In block 34, record the cost for military personnel IAW the Compensation Rate Tables in AR 37-1.
   c. In block 35, record the civilian personnel costs, consisting of elements of expense 1100, 1200, 1600, 1700, and 2800 as defined in AR 37-100.
   d. In block 36, report the cost for any contracted spectacles indicated on line 28.
   e. In block 37, report the cost for contract services such as lens coating.
   f. In block 32, total blocks 33 through 37.

9. Fill out the Remarks section to include at least the following:
   a. Cost of other operating supplies not included in block 33 (repair parts, supplies, and materials).
   b. Pairs of spectacles fabricated with specialty frames, if not previously reported.
   c. Pairs of spectacles fabricated with specialty lenses, if not previously reported.
   d. Breakout of workload and reimbursement reported on lines 19 and 20. Identify separately the category of customer (for example, National Guard, Army Reserve, dependents, and
   other) and type of eyewear provided (for example, aviation, spectacles, mask inserts, and other). Indicate the dollar amount of reimbursement for each breakout entry.
   e. Data which explains line entries, developments, or trends in fabrication workload, supply deficiencies, and other pertinent remarks related to fabrication problems.

Performance Measures	**GO**	**NO GO**
1. Fill out section A, Summary of Workload.	____	____
2. Fill out section B, Breakdown of Pairs of Spectacles Fabricated.	____	____
3. Fill out section C, Lens Surfacing.	____	____
4. Fill out section D, Prescription Referrals.	____	____
5. Fill out section E, Reimbursement Spectacles.	____	____
6. Fill out section F, Special Procedures.	____	____
7. Fill out section G, Personnel Strength.	____	____
8. Fill out section H, Cost Data.	____	____
9. Fill out the Remarks section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
AR 37-1	AR 40-63
AR 37-100	FM 8-37
AR 40-61	

Skill Level 2

Subject Area 6: General Administration

COMPUTE AUTHORIZED STOCKAGE LEVELS FOR MEDICAL SUPPLIES USING THE DAYS OF SUPPLY (DOS) COMPUTATION

081-872-0043

Conditions: You are assigned to an installation medical supply activity (IMSA). The reorder point has been penetrated for stocked medical supplies. Necessary materials and references: stock accounting record file, DA Pam 710-2-2, and DA Form 1300-2.

Standards: Compute the reorder point and requisitioning objective. Make all required entries on DA Form 1300-2 without error.

Performance Steps

NOTE: Refer to DA Pam 710-2-2 and applicable appendix for steps 1, 5, and 7.

1. Complete the heading of the Computation Card, if necessary.
2. Enter the current month and year on line 1 of the first blank column.
3. Enter the quantity demanded during the control period (QDCP) on line 2.
4. Enter the order shipping time in days (OST) on line 3.

NOTE: Formula abbreviations in the appendix of DA Pam 710-2-2 in some cases are slightly different than the abbreviations in Chapter 4, DA Pam 710-2-2 and DA Form 1300-2. The abbreviations in the appendix have an added "D" for days and "Q" for quantity. The abbreviations mean the same thing. (See Figure 3-2.)

$$\frac{OLD + SLD + OSTD}{360} \times QDCP = ROQ$$

$$\frac{SLD + OSTD}{OLD + SLD + OSTD} \times ROQ = ROPQ$$

OLD	=	Operating Level Days
OSTD (OST)	=	Order Shipping Time Days
QDCP	=	Quantity Demanded in the Control Period
ROPQ (ROP)	=	Reorder Point Quantity
ROQ (RO)	=	Requisitioning Objective Quantity
SLD	=	Safety Level Days

Figure 3-2

5. Compute the requisitioning objective quantity (RO). (See Figure 3-3.)

NOTE: Round to the next highest number.

Performance Steps

6. Enter the requisitioning objective quantity (RO).
7. Compute the reorder point quantity (ROP). (See Figure 3-4.)

NOTE: Round to the next highest number.

8. Enter the reorder point quantity (ROP).
9. File the Computation Card with DA Form 1296.

Performance Measures	**GO**	**NO GO**
NOTE: Refer to DA Pam 710-2-2 and applicable appendix for steps 1, 5, and 7.		
1. Complete the heading of the Computation Card, if necessary.	____	____
2. Enter the current month and year on line 1 of the first blank column.	____	____
3. Enter the quantity demanded during the control period (QDCP) on line 2.	____	____
4. Enter the order shipping time in days (OST) on line 3.	____	____
5. Compute the requisitioning objective quantity (RO). (See Figure 3-3.)	____	____
6. Enter the requisitioning objective quantity (RO).	____	____
7. Compute the reorder point quantity (ROP). (See Figure 3-4.)	____	____
8. Enter the reorder point quantity (ROP).	____	____
9. File the Computation Card with DA Form 1296.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
DA PAM 710-2-2	AMDF
	AR 40-61
	AR 702-18

STOCK NUMBER

UNIT PRICE	STOCKAGE METHOD		EOQ / DOS	REPAIRED FOR STOCK		YES / NO
1. MONTH AND YEAR OF COMPUTATION						
2. QUANTITY DEMANDED IN CONTROL PERIOD	40					
3. ORDER SHIP TIME [OST]	40					
4. QTY REPLACED IN CON PERIOD [WASHOUTS]						
5. REPAIR CYCLE TIME [RCT]						
6. AVERAGE QUANTITY REPAIRED MONTHLY						
7. ECONOMIC ORDER QUALITY [EOQ]						
8. REPAIR CYCLE LEVEL [RCL]						
9. EOQ ROP						
10. ROP						
11. RO						
12. ON HAND						
13. + DUE - IN						
14. - DUE - OUT						
15. NET ASSETS						
THIRD SHIPMENT: DATE						
THIRD SHIPMENT: QUANTITY						
THIRD SHIPMENT: BALANCE						

COMPUTATION CARD

FOR USE OF THIS FORM SEE DA PAM 710 -2 -2.
THE PROPONENT AGENCY IS ODCSLOG.

DA Form 1300 - 2 Jan 82 (Ed. of Jul 61 is obsolete.)

$$\frac{OLD + SLD + OSTD}{360} \times QDCP = ROQ$$

OLD = 90
SLD = 30

$$\frac{90 + 30 + 40}{360} \times 40 = ROQ$$

$$\frac{160}{360} \times 40 = ROQ$$

$$\frac{6400}{360} = ROQ$$

ROQ = 17.7 or 18

Figure 3-3

STOCK NUMBER

UNIT PRICE | STOCKAGE METHOD | EOQ / DOS | REPAIRED FOR STOCK | YES / NO

1. MONTH AND YEAR OF COMPUTATION							
2. QUANTITY DEMANDED IN CONTROL PERIOD							
3. ORDER SHIP TIME [OST]	40						
4. QTY REPLACED IN CON PERIOD [WASHOUTS]							
5. REPAIR CYCLE TIME [RCT]							
6. AVERAGE QUANTITY REPAIRED MONTHLY							
7. ECONOMIC ORDER QUALITY [EOQ]							
8. REPAIR CYCLE LEVEL [RCL]							
9. EOQ ROP							
10. ROP							
11. RO	20						
12. ON HAND							
13. + DUE - IN							
14. - DUE - OUT							
15. NET ASSETS							
THIRD SHIPMENT — DATE							
THIRD SHIPMENT — QUANTITY							
THIRD SHIPMENT — BALANCE							

COMPUTATION CARD

FOR USE OF THIS FORM SEE DA PAM 710 -2 -2.
THE PROPONENT AGENCY IS ODCSLOG.

DA Form 1300 - 2 Jan 82 (Ed. of Jul 61 is obsolete.)

$$\frac{SLD + OSTD}{OLD + SLD + OSTD} \times ROQ = ROPQ$$

SLD = 15
OLD = 30

$$\frac{15 + 40}{30 + 15 + 40} \times 20 = ROPQ$$

$$\frac{55}{85} \times 20 = ROPQ$$

$$\frac{1100}{85} = ROPQ$$

ROPQ = 12.9 or 13

Figure 3-4

INSPECT AN OPTICAL LABORATORY TO ENSURE A SAFE WORKING ENVIRONMENT
081-875-4430

Conditions: The optical laboratory is in operation. There is a written hazard communication program and a risk management program is ongoing

Standards: The optical laboratory is a safe work environment. Laboratory areas, work practices, equipment, and chemicals have been inspected for hazards. The hazard communication program meets the standards of 29 CFR 1910.1200. An effective risk management program has eliminated or reduced the hazards to acceptable risk levels.

Performance Steps

1. Inspect work areas.

NOTE: Do not hesitate to request assistance from the local Safety Officer and Environmental Officer.

   a. Ensure emergency shower and eyewash stations are operational and monthly inspections of each are documented.
   b. Ensure walking and working surfaces are not slippery or cluttered.
   c. Ensure exits and passage ways are not blocked.

2. Inspect work practices.
   a. Ensure horse play is not allowed.
   b. Ensure workers use caution when working with or around electricity.
   c. Ensure personal protective equipment such as safety boots, eye protection, hearing protection, gloves, barrier creams, smocks, aprons, and respiratory protection are worn in appropriate areas.
   d. Ensure that sharp edges are guarded, such as the safety beveling of all knife edge lenses.
   e. Ensure that workers do not wear loose clothing or jewelry near machinery.
   f. Ensure that the proper tool is used for the job.
   g. Ensure workers remain alert while working.
   h. Ensure proper lifting techniques are used.
   i. Ensure that lockout and tagout procedures are followed when working with electrical or kinetic energy.
   j. Ensure that no food or drink are allowed in the laboratory.

3. Inspect equipment.
   a. Ensure engineering controls such as guards or interlock devices are in place, preventing access to moving equipment parts, sharp edges, or electrically "hot" components.
   b. Ensure equipment is electrically grounded.
   c. Ensure fire extinguishers are serviceable and monthly inspections are documented on tags or in the files.

4. Inspect tasks.
   a. Review each step of every task.
   b. List all hazards associated with each step.
   c. Keep a detailed hazard list for the risk management program. (See step 7.)

5. Inspect chemicals.
   a. Inventory all chemicals used in the laboratory.

Performance Steps

b. Ensure each chemical container is properly labeled. (See step 6.)
c. Verify that a Material Safety Data Sheet (MSDS) is on hand for each chemical.

NOTE: Manufacturers and importers are now required by Federal law (29 CFR 1910.1200) to provide MSDSs with their products. Copies of MSDSs must be where they can be used by employees during the work shift. This regulation also requires employers to develop a written hazard communication program and provide workers with training and information. (29 CFR 1910.1200 should be available from the local Safety Officer.)

d. Compile a list of physical, chemical, and medical hazards for each chemical.
e. Keep a detailed hazard list for the risk management program. (See step 7.)

NOTE: Laboratories using metallic alloy blocking systems must conform to hazardous waste disposal regulations (see task 081-872-0036), in addition to preventing lead and cadmium poisoning of employees working with metallic blocking alloy.

f. Develop a spill prevention, containment, and countermeasures plan for the chemicals in your work area.

NOTE: Do not hesitate to request assistance from the local Environmental Officer and Safety Officer.

6. Inspect the Hazard Communication Program.
   a. Verify that an accurate chemical inventory is posted.
   b. Verify that each chemical container is labeled (in English as a minimum), with the identity of the hazardous chemical, the name and address of the manufacturer, importer, or other responsible party, and the appropriate hazard warning.
   c. Verify that the MSDS for each chemical meets the following minimal standards in English:
      (1) Product identity from the label, including chemical and common names of hazardous ingredients.
      (2) Physical and chemical characteristics of ingredients (e.g., vapor pressure and flash point).
      (3) Physical hazards of ingredients (potential for fire, explosion, and reactivity).
      (4) Health hazards associated with ingredients (including signs and symptoms of exposure and any medical conditions generally recognized as being aggravated by exposure to the product).
      (5) Primary routes of entry to the body.
      (6) The permissible exposure limit (PEL), the threshold limit value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the MSDS.
      (7) An indication as to whether the product and/or ingredients are listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or are designated as a potential carcinogen by the Occupational Safety and Health Administration (OSHA) or in the International Agency for Research on Cancer (IARC) (latest editions).
      (8) Any generally applicable precautions for safe handling and use known to persons preparing the MSDS (e.g., appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for cleanup of spills and leaks).
      (9) Any known, generally applicable control measures (e.g., appropriate engineering controls, work practices, or personal protective equipment).
      (10) Emergency and first aid procedures.
      (11) Date of MSDS preparation or last amendment.

Performance Steps

(12) Name, address, and telephone number of a responsible party who can provide additional information on the hazardous chemical and on appropriate emergency procedures.

d. Ensure completeness of training documentation.
   (1) Details of employees training upon initial employment and upon introduction of any new hazards.
   (2) Location of chemical inventory and MSDS file.

NOTE: MSDSs for each chemical in the work place must be available to every employee during their workshift.

(3) Physical and health hazards in the work area.
(4) Measures you can use to protect yourself from the hazards, including work practices and personal protective equipment.
(5) Details of the Hazard Communication Program, including complete information on labels and MSDSs.
(6) Methods used to inform employees of hazards of nonroutine tasks.
(7) Methods used to inform visitors of work area hazards.

7. Inspect the Risk Management Program.
   a. Identify hazards to the force. Consider all aspects of current and future situations, environment, and known historical problem areas.
   b. Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and cost, based on probability and severity.
   c. Develop control measures that eliminate the hazard or reduce its risk. As control measures are developed, risks are reevaluated until all risks are reduced to a level where benefits outweigh potential cost.
   d. Put controls in place that eliminate the hazards or reduce their risks.
   e. Enforce standards and controls. Evaluate the effectiveness of controls and adjust or update them as necessary.
   f. All hazards must be communicated to workers via the Hazard Communication Program. (See step 6.)

Performance Measures	**GO**	**NO GO**
1. Inspect work areas.	____	____
2. Inspect work practices.	____	____
3. Inspect equipment.	____	____
4. Inspect tasks.	____	____
5. Inspect chemicals.	____	____
6. Inspect the Hazard Communication Program.	____	____
7. Inspect the Risk Management Program.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	29 CFR 1910.1200 AR 385-10

Skill Level 3

Subject Area 7: Advanced Optical Support

ASSEMBLE A FIELD COMBAT OPTOMETRY SET

081-830-1024

Conditions: Given a field combat optometry set. Necessary materials and equipment: Patient exam chair, phoropter stand, phoropter, distant vision chart or projector, tonometer, and keratometer.

Standards: Assemble the field combat optometry set, without any damage to equipment or personnel, within twenty minutes.

Performance Steps

TBD by 300-91BP3 Course Director

Performance Measures	**GO**	**NO GO**
1. Locate field optometry chest #1 and check for damages.	____	____
2. Unpack chest #1. Inventory contents and check for damage.	____	____
3. Convert chest #1 into a table.	____	____
4. Assemble exam stool.	____	____
5. Assemble slit lamb base.	____	____
6. Locate field optometry chest #2 and check for damages.	____	____
7. Unpack chest #2. Inventory contents and check for damage.	____	____
8. Assemble the visual acuity projector.	____	____
9. Convert chest #2 into a table.	____	____
10. Locate field optometry chest #3 and check for damages.	____	____
11. Unpack chest #3. Inventory contents and check for damage.	____	____
12. Assemble the slit lamp.	____	____
13. Attach slit lamp power cord to the voltage regulator.	____	____
14. Convert chest #3 into a table.	____	____
15. Locate field optometry chest #4 and check for damage.	____	____
16. Unpack chest #4. Inventory contents and check for damage.	____	____
17. Assemble exam stool.	____	____
18. Assemble the diagnostic chair.	____	____
19. Locate field optometry chest #5 and check for damages.	____	____

Performance Measures	GO	NO GO
20. Unpack chest #5. Inventory and check for damage.	____	____
21. Assemble the phoropter stand.	____	____
22. Convert chest #5 into a table.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	None

CALIBRATE THE EYE CHART

081-830-1055

Conditions:
Standards:

Performance Steps

TBD by 300-91BP3 Course Director

Performance Measures	**GO**	**NO GO**
1. TBD by 300-91BP3 Course Director	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	None

Subject Area 8: Advanced Administration

MAINTAIN OPTICAL LABORATORY CREDIT CARD ACCOUNT
081-875-4434

Conditions: You are a SmartPay government purchase cardholder. You received a statement of account (SOA). Necessary materials and documents: (See Appendix C) Supply List for Credit Card Purchases (Fig. C-1), Cardholder's Worksheet (Fig. C-2), IMPAC Card Purchaser Register (Fig.C-3), Purchase Request DA Form 3953, and files of purchase activity.

Standards: Reconcile statement of account (SOA) against IMPAC Card Purchase Register and forward to approving official.

Performance Steps

1. Reconciles statement of account (SOA)
    a. Sign statement of account.

NOTE: Add phrase "property hand receipts have been completed when necessary".

2. Attach receipts (packing/register slips) to statement of account.

3. Identify any transaction in dispute.

NOTE: All charges (except fraud) will be paid on the statement of account and then disputed if a dispute becomes necessary.

    a. Contact vendor to resolve disputed at your level.
    b. If dispute is not resolved and credited on second statement of account, contact bank immediately, complete CSQI.
    c. Track suspense.

NOTE: Cardholders have 60 days from the date of the first listing of the transaction to dispute with bank.

4. Keep copies of signed statement of account.

5. Forward statement of account, receipt originals, disputed records, and CSQI to approving official.

6. Maintain own files of purchase activity.

NOTE: For each transaction on the statement of account, there should be documentation of the transaction to include;

    a. (Local Forms) Supply List for Credit Card Purchases, Cardholder's Worksheet, IMPAC Card Purchaser Register, Purchase Request DA Form 3953.
    b. Indication that funds are available.
    c. Clearance, exceptions, etc.
    d. Price competition or price verification of purchase.
    d. Credit card slips, invoices.
    d. Packing slips, delivery tickets.
    d. Any disputed records.
    d. Property book completion paperwork, if necessary.

NOTE: Records must be maintained for 3 years.

Performance Measures	**GO**	**NO GO**
1. Reconcile statement of account.	____	____
2. Attach receipts to statement of account.	____	____
3. Identify any transaction in dispute.	____	____
4. Keep copies of signed statement of account.	____	____
5. Forward statement of account to approving official.	____	____
6. Maintain own files of purchase activity.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	FEDRAL ACQUISITON REGULATION PART 13 DEFENSE FEDRAL ACQUISITON REGULATION SUPPLEMENT PART 213 ARMY FEDRAL ACQUISITON REGULATION SUPPLEMENT PART 13

Skill Level 4

Subject Area 9: Senior Administration

DEVELOP THE ANNUAL OPTICAL LABORATORY BUDGET REQUIREMENT
081-875-4435

Conditions: Develop the annual optical laboratory budget requirement. Necessary materials and documents: Previous FY Annual Optical Laboratory Report and Monthly Optical Laboratory Expense Reports.

Standards: Validate future budget requirements based on past practice and known mission support requirements to ensure annual production mission.

Performance Steps

1. Identify annual optical laboratory budget requirements.
   a. Military workforce.
   b. Civilian workforce.
   c. Facility maintenance.
   d. Optical equipment maintenance.
   e. Optical equipment procurement.
   f. Other equipment costs.
   g. Optical supply costs.
   h. Other supply costs.
2. Identify previous FY reimbursable funds.
3. Identify previous FY production costs.
4. Identify previous FY workforce costs.
5. Identify previous FY optical equipment costs.
6. Identify previous FY all other costs.

Performance Measures	**GO**	**NO GO**
1. Identify annual optical laboratory budget requirements.	____	____
2. Identify previous FY reimbursable funds.	____	____
3. Identify previous FY production costs.	____	____
4. Identify previous FY workforce costs.	____	____
5. Identify previous FY optical equipment costs.	____	____
6. Identify previous FY all other costs.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
None	None

PREPARE AN ANNUAL OPTICAL LABORATORY REPORT
081-875-4436

Conditions: You must prepare an annual optical laboratory report DA Form 2717 IAW AR 40-61, AR 37-100, and AR 37-1 for MEDCOM. Necessary materials and documents: Blank annual optical laboratory report DA Form 2717, production data for the reporting FY period, and a copy of an annual optical laboratory report DA Form 2717 from the previous FY production period.

Standards: The annual optical laboratory report DA Form 2717 must be filled out accurately reflecting workload accomplished in the past production FY period, divided by categories IAW AR 40-61 and AR 40-63.

Performance Steps

1. Fill out section A, Summary of Workload.
    a. Lines 1 through 5. Record data in Columns "c" through "h" with a total of all reportable elements in Column "b".
        (1) Record active military personnel in Columns "c", "d", and "e", as appropriate. (Marines are recorded in column "e").
        (2) Record retired personnel of all military services and their dependents in Column "f".
        (3) Record dependents of active military personnel in Column "g".
        (4) Record all other personnel authorized spectacles in Column "h".
    b. Line 1. Record the number of spectacles which remained to be fabricated at the end of the previous production period.
    c. Line 2. Record the number of spectacles prescribed by eye clinics on DD Form 771 during the reporting period.
    d. Line 3. Total lines 1 and 2.
    e. Line 4. Record the total number of spectacles and allied devices fabricated by the laboratory or unit during the reporting period, including pairs that were fabricated by commercial facilities.

NOTE: Individual lens replacement, that does not involve replacement of the frame, will not be included on line 4.

    f. Line 5. Record the number of spectacles remaining to be processed at the end of the reporting period.

2. Fill out section B, Breakdown of Pairs of Spectacles Fabricated.
    a. Enter all standard frames fitted with standard lenses on lines 6 through 10.
    b. Enter any pairs of spectacles fitted with at least one nonstandard component (frame or lens) on lines 12 and 13.
    c. Total lines 11 and 14. This total should equal line 4, Section A.

3. Fill out section C, Lens Surfacing.
    a. Enter the total number of single lenses which required sphere surfacing on line 15.
    b. Enter the total number of single lenses which required cylinder surfacing on line 16.

4. Fill out section D, Prescription Referrals.
    a. Write the short title of the optical laboratory to which spectacle prescriptions are referred when fabrication is beyond the capacity of the reporting laboratory, on line 17.
    b. Write the total number of pairs of spectacles referred to the supporting optical laboratory on line 18.

Performance Steps

5. Fill out section E, Reimbursement Spectacles.
    a. Enter the total number of pairs of spectacles reported on line 4 for which reimbursement was required by AR 40-63, on line 19.
    b. Enter the dollar amount received as reimbursement for the pairs entered on line 19 on line 20.

6. Fill out section F, Special Procedures.
    a. Enter the number of spectacles fabricated with tinted lenses on line 21. Line 22 will document the number of tinted aviation spectacles and line 23 will document all other frames issued with tinted lenses.
    b. Enter the number of spectacles fabricated with coated lenses on line 24. Line 25 will document the number of coated spectacles and line 26 will document the number of spectacles issued with special coated lenses.
    c. Enter the number of pairs manufactured with industrial safety thickness lenses (3 mm minimum thickness) on line 27.
    d. Enter the number of pairs fabricated by contract on line 28.
    e. Enter the number of individual lens replacements made without any frame replacement on line 29.

7. Fill out section G, Personnel Strength.
    a. Enter the TO&E or TDA authorized strength for the laboratory at the end of the reporting period on line 30.
    b. Report actual strength on line 31.
        (1) For military, enter personnel strength on hand as indicated on the morning report at the end of the reporting period.
        (2) For civilians, enter personnel strength (including foreign nationals) as of the end of the reporting period.

8. Fill out section H, Cost Data.

NOTE: This section will be completed only by optical laboratories and units operating in CONUS facilities and overseas depots.

    a. In block 33, enter the cost of component parts for spectacles and allied ocular devices.
    b. In block 34, record the cost for military personnel IAW the Compensation Rate Tables in AR 37-1.
    c. In block 35, record the civilian personnel costs, consisting of elements of expense 1100, 1200, 1600, 1700, and 2800 as defined in AR 37-100.
    d. In block 36, report the cost for any contracted spectacles indicated on line 28.
    e. In block 37, report the cost for contract services such as lens coating.
    f. In block 32, total blocks 33 through 37.

9. Fill out the Remarks section to include at least the following:
    a. Cost of other operating supplies not included in block 33 (repair parts, supplies, and materials).
    b. Pairs of spectacles fabricated with specialty frames, if not previously reported.
    c. Pairs of spectacles fabricated with specialty lenses, if not previously reported.
    d. Breakout of workload and reimbursement reported on lines 19 and 20. Identify separately the category of customer (for example, National Guard, Army Reserve, dependents, and
    other) and type of eyewear provided (for example, aviation, spectacles, mask inserts, and other). Indicate the dollar amount of reimbursement for each breakout entry.

Performance Steps

e. Data which explains line entries, developments, or trends in fabrication workload, supply deficiencies, and other pertinent remarks related to fabrication problems.

Performance Measures	**GO**	**NO GO**
1. Fill out section A, Summary of Workload.	____	____
2. Fill out section B, Breakdown of Pairs of Spectacles Fabricated.	____	____
3. Fill out section C, Lens Surfacing.	____	____
4. Fill out section D, Prescription Referrals.	____	____
5. Fill out section E, Reimbursement Spectacles.	____	____
6. Fill out section F, Special Procedures.	____	____
7. Fill out section G, Personnel Strength.	____	____
8. Fill out section H, Cost Data.	____	____
9. Fill out the Remarks section.	____	____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	**Related**
None	None

APPENDIX A -

TBD

APPENDIX B -

Surface Section Computations

1. Compute compensated power.

NOTE: Lap tool curvatures are standardized for a 1.530 index of refraction. Consequently, when surfacing lens materials with a different index of refraction, it is necessary to compensate for this difference to achieve accurate ophthalmic power.

Compensated Power - the true power of the lens when referenced to a 1.530 index of refraction.

$\frac{R_x \text{ power (diopters)}}{\text{CP for a CR-39 lens}} = \frac{\text{standard tool index of refraction -1}}{\text{CR-39 index of refraction -1}}$

$$D \times \frac{(1.530 - 1)}{(1.498 - 1)} = CP$$

$$D \times \frac{(.530)}{(.498)} = CP$$

$$CP = D \times 1.064257028$$

Where: D = dioptric power of lens
1.530 = standard index of refraction
1.498 = index of refraction of CR-39 plastic

Example 1: OD: -1.00 SPH PD: 64/61 ADD: +2.00 ST-28

CP = -1.00 X 1.064257028 = -1.06

Example 2: OS: +1.50 SPH PD: 65/62 ADD: +2.50 ST-28

CP = +1.50 X 1.064257028 = +1.59

Example 3: OD: -1.50 -1.00 X 135 PD: 68/64 ADD: +2.25 FT-35

CP = -1.50 X 1.064257028 = -1.59 at axis 135
CP = -2.50 X 1.064257028 = -2.66 at axis 45

Example 4: OS: +2.50 -2.00 X 60 1.00 BI PD: 65/62
ADD: +2.00 ST-35

CP = +2.50 X 1.064257028 = +2.66 at axis 60
CP = +0.50 X 1.064257028 = +0.53 at axis 150

Example 5: OD: -1.50 -1.75 X 35 2.00 BO & 1.50 BU PD: 64/60
ADD: +2.50 ST-28

CP = -1.50 X 1.064257028 = -1.59 at axis 35
CP = -3.25 X 1.064257028 = -3.45 at axis 125

Example 6: OS: +3.25 -1.25 X 115 1.00 BO & 2.00 BD PD: 70/67
ADD: +2.50 ST-28

CP = +3.25 X 1.064257028 = +3.45 at axis 115
CP = +2.00 X 1.064257028 = +2.12 at axis 25

Example 7: OD: -1.00 -1.00 X 145 PD: 65/62
ADD: +2.25 TRIFOCAL ST-28

CP = -1.00 X 1.064257028 = -1.06 at axis 145
CP = -2.00 X 1.064257028 = -2.12 at axis 55

2. Select a lens blank.

a. Select the best nominal base curve (NBC) lens in stock using the base curve selection formula. Select a lens blank that will allow the back curve to be as close as possible to a -6.00 diopter curve.

NBC = Lens Spherical Equivalent + 6.

b. Select the closest stocked lens blank.

3. Determine the actual base curve (ABC) of a lens with the sagometer.

Example 1: ABC = +6.23

Example 2: ABC = +8.11

Example 3: ABC = +4.10

Example 4: ABC = +8.11

Example 5: ABC = +4.10

Example 6: ABC = +8.11

Example 7: ABC = +4.10

4. Calculate on-center blocking prism.

NOTE: Knowledge of the following definitions and formulas is necessary.

On-Center Blocking - the practice of placing the surfacing block at the geometric center of the lens blank and moving the reference point of the lens to the desired location by grinding prism for decentration.

Segment Inset - the horizontal distance between the lens blank geometric center to the center of the multifocal segment.

Patient Inset Per Eye - one half the difference between distant pupillary distance (DPD) and near pupillary distance (NPD).

Segment Drop - the vertical distance between the lens geometric center and the top of the segment.

Major Reference Point - the point on a lens where the prism equals that called for by the prescription.

Optical Center - the point on an ophthalmic lens where there is no prismatic effect.

Compensated Power - the true power of the lens when referenced to a 1.530 index of refraction.

a. Verify that the prescription is in minus cylinder form.

b. Determine the segment inset and drop of the lens blank from manufacturer's literature or by measuring from the geometric center of the lens to the midpoint of the top of the segment.

c. Calculate the patient's inset per eye.

$$\frac{DPD - NPD}{2} = \text{Inset}$$

d. Determine the standard drop for multifocal style IAW local SOP.

(1) Bifocal - 5 mm

(2) Trifocal - 3 mm

e. Calculate the amount of horizontal decentration.

Seg inset - inset per eye = horizontal decentration

f. Calculate the amount of vertical decentration.

Seg drop - standard drop = vertical decentration

NOTE: The following rules apply if the segment drop is greater than the standard drop:

* If the power on the 90 is (+) the prism direction will be base down. OD & OS = 270

* If the power on the 90 is (-) the prism direction will be base up. OD & OS = 90

NOTE: The following rules apply if the segment drop is less than the standard drop:

* If the power on the 90 is (+) the prism direction will be base up. OD & OS = 90

* If the power on the 90 is (-) the prism direction will be base down. OD & OS = 270

g. Calculate the power in the 180th meridian IAW FM 8-37.

h. Calculate the power in the 90th meridian IAW FM 8-37.

i. Calculate the horizontal prism required.

j. Calculate the vertical prism required.

NOTE: The following rules apply if prism is prescribed by the doctor:

* If the prescribed prism is the same direction as the on-center blocking (O.C.B) prism, add the two together and the base direction will remain the same.

* If the prescribed prism is the opposite direction from the O.C.B. prism, find the difference and retain the prism direction of the larger.

* If resultant prism is prescribed, combine the prescribed horizontal prism with the on-center blocking horizontal prism and the prescribed vertical prism with the on-center blocking vertical prism.

k. Compute resultant prism IAW FM 8-37 and the resultant prism chart, Figure B-1, page B-20.

(1) Calculate the resultant prism amount.

NOTE: An alternative method for computing resultant prism amount is:

Horizontal prism squared plus Vertical prism squared = Resultant prism squared

$$H^2 + V^2 = R^2$$

(2) Calculate the resultant prism base direction.

NOTE: The following rules apply for determining prism direction for on-center blocking:

* If the power on the 180 is (+) the prism direction will be base in. OD=000 OS=180

* If the power on the 180 is (-) the prism direction will be base out. OD=180 OS=000

Example 1: OD: -1.00 SPH PD: 64/61
ADD: +2.00 ST-28 Blank seg inset: 6 mm Blank seg drop: 6 mm
Patient inset: 1.5 mm Standard drop: 5 mm

6 - 1.5 = 4.5 mm in 6 - 5 = 1 mm down

Power on 180 = -1.00 Power on 90 = -1.00

Prism (^) = Lens power (D) x decentration in cm

NOTE: For minus lenses, the prism base direction will be the opposite of the decentration direction.

Horizontal ^ = 0.45 BO Vertical ^ = 0.10 BU

0.46 ^ Base 167

Example 2: OS: +1.50 SPH PD: 65/62
ADD: +2.50 ST-28 Blank seg inset: 6 mm Blank seg drop: 6 mm
Patient inset: 1.5 mm Standard drop: 5 mm

6 - 1.5 = 4.5 mm in 6 - 5 = 1 mm down

Power on 180 = +1.50 Power on 90 = +1.50

NOTE: For plus lenses, the prism base direction will be the same as the decentration direction.

Horizontal ^ = 0.67 BI Vertical ^ = 0.15 BD

0.68 ^ Base 202

Example 3: OD: -1.50 -1.00 X 135 PD: 68/64
ADD: +2.25 FT-35 Blank seg inset: 7 mm Blank seg drop: 6 mm
Patient inset: 2 mm Standard drop: 5 mm

7 - 2 = 5 mm in 6 - 5 = 1 mm down

Power on 180 = -2.00 Power on 90 = -2.00

Horizontal ^ = 1.00 BO Vertical ^ = 0.20 BU

1.01 ^ Base 168

Example 4: OS: +2.50 -2.00 X 60 1.00 BI PD: 65/62
ADD: +2.00 ST-35 Blank seg inset: 6 mm Blank seg drop: 6 mm
Patient inset: 1.5 mm Standard drop: 5 mm

6 - 1.5 = 4.5 mm in 6 - 5 = 1 mm down

Power on 180 = +1.00 Power on 90 = +2.00

O.C.B. ^ = 0.45 BI Vertical ^ = 0.20 BD

NOTE: Combine the prescribed prism with the on-center blocking prism. Horizontal prism will only be combined with horizontal prism and vertical prism will only be combined with vertical prism.

Prescribed ^: 1.00 BI (horizontal)
O.C.B. ^ : + 0.45 BI (horizontal)
Horizontal ^ = 1.45 BI Vertical ^ = 0.20 BD

1.46 ^ Base 187

Example 5: OD: -1.50 -1.75 X 35 2.00 BO & 1.50 BU PD: 64/60
ADD: +2.50 ST-28 Blank seg inset: 6 mm Blank seg drop: 6 mm
Patient inset: 2 mm Standard drop: 5 mm

6 - 2 = 4 mm in 6 - 5 = 1 mm down

Power on 180 = -2.07 Power on 90 = -2.67

Horizontal ^ = 0.82 BO Vertical ^ = 0.26 BU

Prescribed prism is 2.00 BO and 1.50 BU.

3.32 ^ Base 148

Example 6: OS: +3.25 -1.25 X 115 1.00 BO & 2.00 BD PD: 70/67
ADD: +2.50 ST-28 Blank seg inset: 7 mm Blank seg drop: 6 mm
Patient inset: 1.5 mm Standard drop: 5 mm

7 - 1.5 = 5.5 mm in 6 - 5 = 1 mm down

Power on 180 = +2.23 Power on 90 = +3.03

Horizontal ^ = 1.22 BI Vertical ^ = 0.30 BD

Prescribed prism is 1.00 BO and 2.00 BD.

2.31 ^ Base 264

Example 7: OD: -1.00 -1.00 X 145 PD: 65/62
ADD: +2.25 TRI ST-28 Blank seg inset: 5 mm Blank seg drop: 2 mm
Patient inset: 1.5 mm Standard drop: 3 mm

5 - 1.5 = 3.5 mm in 2 - 3 = 1 mm

Power on 180 = -1.33 Power on 90 = -1.67

Horizontal ^ = 0.46 BO Vertical ^ = 0.16 BD

0.48 ^ Base 199

4. Calculate lens center thickness.

NOTE: The following formulas and information are necessary for calculating lens thickness.

Chord Diameter - the minimum lens blank size required to ensure a lens will completely cut out according to prescription.

CD = ED + (A + DBL - PD)

Where ED = effective diameter
A = frame eye size
DBL = distance between lenses (frame bridge size)
PD = pupillary distance

Strap Thickness - the difference, in millimeters, between the center and edge of the lens, rounded off to the nearest tenth.

$$\frac{r^2 \text{ X } CP}{1000} = S$$

Where S = Strap Thickness
r = radius of the lens (half the chord diameter)
CP = the dioptric Compensated Power of the lens
1000 = constant in the formula

Base to Apex Thickness Difference

$$BATD = \frac{CD \text{ X } Prism}{100\ (n-1)}$$

Where CD = chord diameter
Prism = amount of prism to be computed
n = index of refraction of lens (CR-39)

NOTE: The edge thickness at the most plus meridian (always the sphere meridian) will have an edge thickness of 1.7 mm. Compute the center thickness using the strap formula at the most plus meridian and then adding the result to 1.7 mm edge thickness.

NOTE: The ideal finished center thickness of a minus or plano lens is 2.0 mm.

NOTE: Each diopter of minus power in the prism meridian neutralizes the need for one prism diopter's additional thickness.

a. Compute the compensated power (CP).

b. Compute the chord diameter (CD).

c. Compute the strap thickness.

d. Combine the strap thickness with the center thickness of plus lenses.

e. Compute the base to apex thickness difference.

f. Combine the center thickness of the lens with one half the base to apex prism thickness.

Example 1: OD: -1.00 SPH PD: 64/61

CP = -1.00 X 1.064257028 = -1.06

NOTE: Minus lenses have a 2.0 mm center thickness.

NOTE: Minus power at the prism base meridian exceeds prism power, so there will be no prism thickness added.

2.0 mm (center thickness)

Example 2: OS: +1.50 SPH PD: 65/62

CP = +1.50 X 1.064257028 = +1.59

ED = 54 mm A = 52 mm
DBL = 20 mm PD = 65 mm

CD = 54 + (52 + 20 - 65) = 61

$$\frac{30.5^2 \text{ X } 1.59}{1000} = 1.5 \text{ mm}$$

1.7 mm (finished edge at 010°) (sphere axis)
+ 1.5 mm (strap for sph meridian)
3.2 mm (center thickness w/o prism)

$$\text{BATD} = \frac{61 \text{ X } 0.68^{\wedge}}{100\,(1.498 - 1)} = 0.8329 \text{ mm}$$

3.2 mm (center thickness w/o prism)
+ 0.4 mm (1/2 BATD)
3.6 mm (center thickness with prism)

Example 3: OD: -1.50 -1.00 X 135 PD: 68/64

CP = -1.50 X 1.064257028 = -1.59 at axis 135
CP = -2.50 X 1.064257028 = -2.66 at axis 45

NOTE: Minus lenses have a 2.0 mm center thickness.

NOTE: Minus power at the prism base meridian exceeds prism power, so there will be no prism thickness added.

2.0 mm (center thickness)

Example 4: OS: +2.50 -2.00 X 60 1.00 BI PD: 65/62

CP = +2.50 X 1.064257028 = +2.66 at axis 60
CP = +0.50 X 1.064257028 = +0.53 at axis 150

ED = 54 mm A = 52 mm
DBL = 20 mm PD = 65 mm

CD = 54 + (52 + 20 - 65) = 61

$$\frac{30.5^2 \text{ X } 2.66}{1000} = 2.5 \text{ mm}$$

1.7 mm (finished edge at 060°) (sphere axis)
+ 2.5 mm (strap for sph meridian)
4.2 mm (center thickness w/o prism)

$$\text{BATD} = \frac{61 \text{ X } 1.46^{\wedge}}{100\ (1.498 - 1)} = 1.7883 \text{ mm}$$

4.2 mm (center thickness w/o prism)
+ 0.9 mm (1/2 BATD)
5.1 mm (center thickness with prism)

Example 5: OD: -1.50 -1.75 X 35 2.00 BO & 1.50 BU PD: 64/60

CP = -1.50 X 1.064257028 = -1.59 at axis 35
CP = -3.25 X 1.064257028 = -3.45 at axis 125

NOTE: Minus lenses have a 2.0 mm center thickness.

NOTE: Minus power in the prism base direction is one half diopter less than prism power, so thickness is figured for one half diopter of prism.

$$\text{BATD} = \frac{62 \text{ X } 0.50^{\wedge}}{100\ (1.498 - 1)} = 0.6224 \text{ mm}$$

2.0 mm (center thickness w/o prism)
+ 0.3 mm (1/2 BATD)
2.3 mm (center thickness with prism)

Example 6: OS: +3.25 -1.25 X 115 1.00 BO & 2.00 BD PD: 70/67

CP = +3.25 X 1.064257028 = +3.45 at axis 115
CP = +2.00 X 1.064257028 = +2.12 at axis 25

ED = 54 mm A = 52 mm
DBL = 20 mm PD = 70 mm

CD = 54 + (52 + 20 - 70) = 56

$$\frac{28^2 \text{ X } 3.45}{1000} = 2.7 \text{ mm}$$

1.7 mm (finished edge at 115°) (sphere axis)
+ 2.7 mm (strap for sph meridian)
4.4 mm (center thickness w/o prism)

$$\text{BATD} = \frac{56 \text{ X } 2.31\text{^}}{100 (1.498 - 1)} = 2.5975 \text{ mm}$$

4.4 mm (center thickness w/o prism)
+ 1.3 mm (1/2 BATD)
5.7 mm (center thickness with prism)

Example 7: OD: -1.00 -1.00 X 145 PD: 65/62

CP = -1.00 X 1.064257028 = -1.06 at axis 145
CP = -2.00 X 1.064257028 = -2.12 at axis 55

NOTE: Minus lenses have a 2.0 mm center thickness.

NOTE: Minus power at the prism base meridian exceeds prism power, so there will be no prism thickness added.

2.0 mm (center thickness)

5. Compute back curves.

$$\text{Back Curve} = \text{CP} - \frac{\text{Actual Base Curve (ABC)}}{1 - (\text{ABC (Center Thickness in Meters}/1.53))}$$

Example 1: ABC = +6.23

$$\text{Back Curve} = -1.06 - \frac{6.23}{1 - (6.23 (.002/1.53))}$$

$$\frac{6.23}{}$$

Back Curve = -1.06 - 1 - (6.23 (.001307189))

$$\text{Back Curve} = -1.06 - \frac{6.23}{1 - 0.008143787}$$

$$\text{Back Curve} = -1.06 - \frac{6.23}{0.991856213}$$

Back Curve = -1.06 - 6.281152366 = -7.34

Tool = 7.37

NOTE: If curve is in the middle between standard curves, round curves on minus power lenses up, round curves on plus power lenses down.

Example 2: ABC = +8.11

$$\text{Back Curve} = +1.59 - \frac{8.11}{1 - (8.11\ (.0036/1.53))}$$

Back Curve = -6.67

Tool = 6.62

Example 3: ABC = +4.10

$$\text{Back Curve} = -1.59 - \frac{4.10}{1 - (4.10\ (.002/1.53))}$$

Back Curve = -5.71 (Sphere Curve)

$$\text{Back Curve} = -2.66 - \frac{4.10}{1 - (4.10\ (.002/1.53))}$$

Back Curve = -6.78 (Cyl Curve)

Tool = 5.75 / 6.75

Example 4: ABC = +8.11

$$\text{Back Curve} = +2.66 - \frac{8.11}{1 - (8.11\ (.0051/1.53))}$$

Back Curve = -5.67 (Sphere Curve)

$$\text{Back Curve} = +0.53 - \frac{8.11}{1 - (8.11\ (.0051/1.53))}$$

Back Curve = -7.80 (Cyl Curve)

Tool = 5.62 / 7.75

Example 5: ABC = +4.10

$$\text{Back Curve} = -1.59 - \frac{4.10}{1 - (4.10\ (.0023/1.53))}$$

Back Curve = -5.71 (Sphere Curve)

$$\text{Back Curve} = -3.45 - \frac{4.10}{1 - (4.10\ (.0023/1.53))}$$

Back Curve = -7.57 (Cyl Curve)

Tool = 5.75 / 7.62

Example 6: ABC = +8.11

$$\text{Back Curve} = +3.45 - \frac{8.11}{1 - (8.11\ (.0057/1.53))}$$

Back Curve = -4.91 (Sphere Curve)

$$\text{Back Curve} = +2.12 - \frac{8.11}{1 - (8.11\ (.0057/1.53))}$$

Back Curve = -6.24 (Cyl Curve)

Tool = 4.87 / 6.25

Example 7: ABC = +4.10

$$\text{Back Curve} = -1.06 - \frac{4.10}{1 - (4.10\ (.002/1.53))}$$

Back Curve = -5.18 (Sphere Curve)

$$\text{Back Curve} = -2.12 - \frac{4.10}{1 - (4.10\ (.002/1.53))}$$

Back Curve = -6.24 (Cyl Curve)

Tool = 5.25 / 6.25

Field Expedient Surface Curve Computation

1. Compute compensated sphere power without thickness or prism by multiplying the lens prescription by 1.064.

Example 6: OS: +3.25 -1.25 X 115

3.25	-1.25
X 1.064	X 1.064
1300	500
1950	750
000	000
325	125
3.45800	-1.33000

NOTE: The compensated sphere power = +3.45; the compensated cylinder = -1.33.

2. Subtract compensated sphere power from lens blank actual base curve to compute concave sphere curve without thickness change.

Example 1: Lens ABC +6.23 - (-1.06) = 7.29

Example 2: Lens ABC +8.11 - (+1.59) = 6.52

Example 3: Lens ABC +4.10 - (-1.59) = 5.69

Example 4: Lens ABC +8.11 - (+2.66) = 5.45

Example 5: Lens ABC +4.10 - (-1.59) = 5.69

Example 6: Lens ABC +8.11 - (+3.45) = 4.66

Example 7: Lens ABC +4.10 - (-1.06) = 5.16

3. Compute center thickness IAW previous section, step 4, page B-7.

Example 1: 2.0 mm

Example 2: 3.6 mm

Example 3: 2.0 mm

Example 4: 5.1 mm

Example 5: 2.3 mm
Example 6: 5.7 mm

Example 7: 2.0 mm

4. Compute the power change for center thickness from "Change in Concave Surface Power for Center Thickness" chart, Figure B-2, page B-21.

a. Find the base curve of the lens blank on the left side of the chart.

b. Find the center thickness on top of the chart.

c. Find the intersection of the lens base curve and center thickness. This is the power change for thickness.

5. Add the thickness power change to the concave sphere meridian curve without thickness, from step 2.

6. Round to the nearest .12 diopter. This gives the tool sphere curve.

NOTE: If the curve is in the middle between standard tool curves, round curves on minus power lenses up and round curves on plus power lenses down.

Example 1:	7.29 + 0.05 = 7.34	7.37
Example 2:	6.52 + 0.17 = 6.69	6.62
Example 3:	5.69 + 0.02 = 5.71	5.75
Example 4:	5.45 + 0.23 = 5.68	5.62
Example 5:	5.69 + 0.02 = 5.71	5.75
Example 6:	4.66 + 0.26 = 4.92	4.87
Example 7:	5.16 + 0.02 = 5.18	5.25

7. Compute compensated power of minus cylinder without thickness or prism.

NOTE: Do not use total power in cylinder meridian for this step.

8. Combine the compensated cylinder power with the unrounded concave sphere curve to find the concave cross curve. Round to the nearest .12 diopter for the tool cross curve .

NOTE: If the curve is in the middle between standard curves, round curves on minus power lenses up and round curves on plus power lenses down.

Example 1:	No Cylinder	
Example 2:	No Cylinder	
Example 3:	1.06 + 5.71 = 6.77	6.75
Example 4:	2.12 + 5.68 = 7.80	7.75
Example 5:	1.86 + 5.71 = 7.57	7.62
Example 6:	1.33 + 4.92 = 6.25	6.25
Example 7:	1.06 + 5.18 = 6.24	6.25

NOTE: Lens graphs for the seven examples:

	Actual Lens Base Curve Tool curve or curves
Example 1:	+ 6.23 - 7.37
Example 2:	+ 8.11 - 6.62
Example 3:	+ 4.10 - 5.75 - 6.75
Example 4:	+ 8.11 - 5.62 - 7.75
Example 5:	+ 4.10 - 5.75 - 7.62
Example 6:	+ 8.11 - 4.87 - 6.25
Example 7:	+ 4.10 - 5.25 - 6.25

Example 8: RX: OD: +3.00 -0.25 X 90 OS: +2.75 Sphere
Pupillary Distance: 66/63, Frame: S-9, 52/20 ED: 56 mm
ADD: +2.50 FT-25, Total Decentration: 4.5 mm.

Compute the compensated sphere power without thickness or prism by multiplying the lens sphere meridian prescription by 1.064.

OD: Compensated Sphere Power = +3.00 x 1.064 = +3.19

OS: Compensated Sphere Power = +2.75 x 1.064 = +2.92

Subtract the compensated sphere power from the lens blank actual base curve to compute the concave sphere curve without thickness change.

Actual Base Curve of lens blank = +8.72 for both eyes.

OD:	+ 8.72	OS:	+ 8.72
-	+ 3.19	-	+ 2.92
	+ 5.53		+ 5.80

Compute the center thickness IAW previous section, step 4, page B-7.

Blank seg inset = 6 Blank seg drop = 7
Patient inset per eye = 1.5 Standard drop = 5

6 - 1.5 = 4.5 mm in 7 - 5 = 1 mm dn

OD: Power on the 180th = +3.00 Power on the 90th = +2.75

Prism = 3.19 x .45 = 1.4 in Prism = 2.92 x .1 = .6 dn

NOTE: The resultant prism graph shows the prism to be 1.53 at base direction 203, also called 23 down, depending on local procedures.

OS: Power on the 180th = +2.75 Power on the 90th = +2.75

Prism = 2.92 x .45 = 1.3 in Prism = 2.92 x .1 = .6 dn

NOTE: The resultant prism graph shows the prism to be 1.43 at base direction 335, also called 155 down, depending on local procedures.

Cord Diameter = 56 + (52 + 20 - 66) = 62

BATD OD: $\frac{62 \times 1.53}{49.8} = 1.9$

BATD OS: $\frac{62 \times 1.43}{49.8} = 1.7$

Strap OD: $\frac{31^2 \times 3.19}{1000} = 3.0$

Strap OS: $\frac{31^2 \times 2.92}{1000} = 2.8$

Strap thickness + edge thickness + one half BATD = center thickness

OD: 3.0 + 1.7 + 1.0 = 5.7 mm

OS: 2.8 + 1.7 + 0.9 = 5.4 mm

Compute the power change for center thickness from Figure B-2, page B-21.

OD: 0.26

OS: 0.25

Combine powers and round to nearest tool curve.

OD:		OS:	
	+ 5.53		+ 5.80
	+ 0.26		+ 0.25
	+ 5.79		+ 6.05

OD sphere tool curve = 5.75 OS sphere tool curve = 6.00

Compensated power of cylinder OD = 0.26 OS = 0.00

Tool curves for this job are:

OD: 5.75 / 6.00 OS: 6.00 sphere

Right Eye = OUT Right Eye = IN

Left Eye = IN Left Eye = OUT

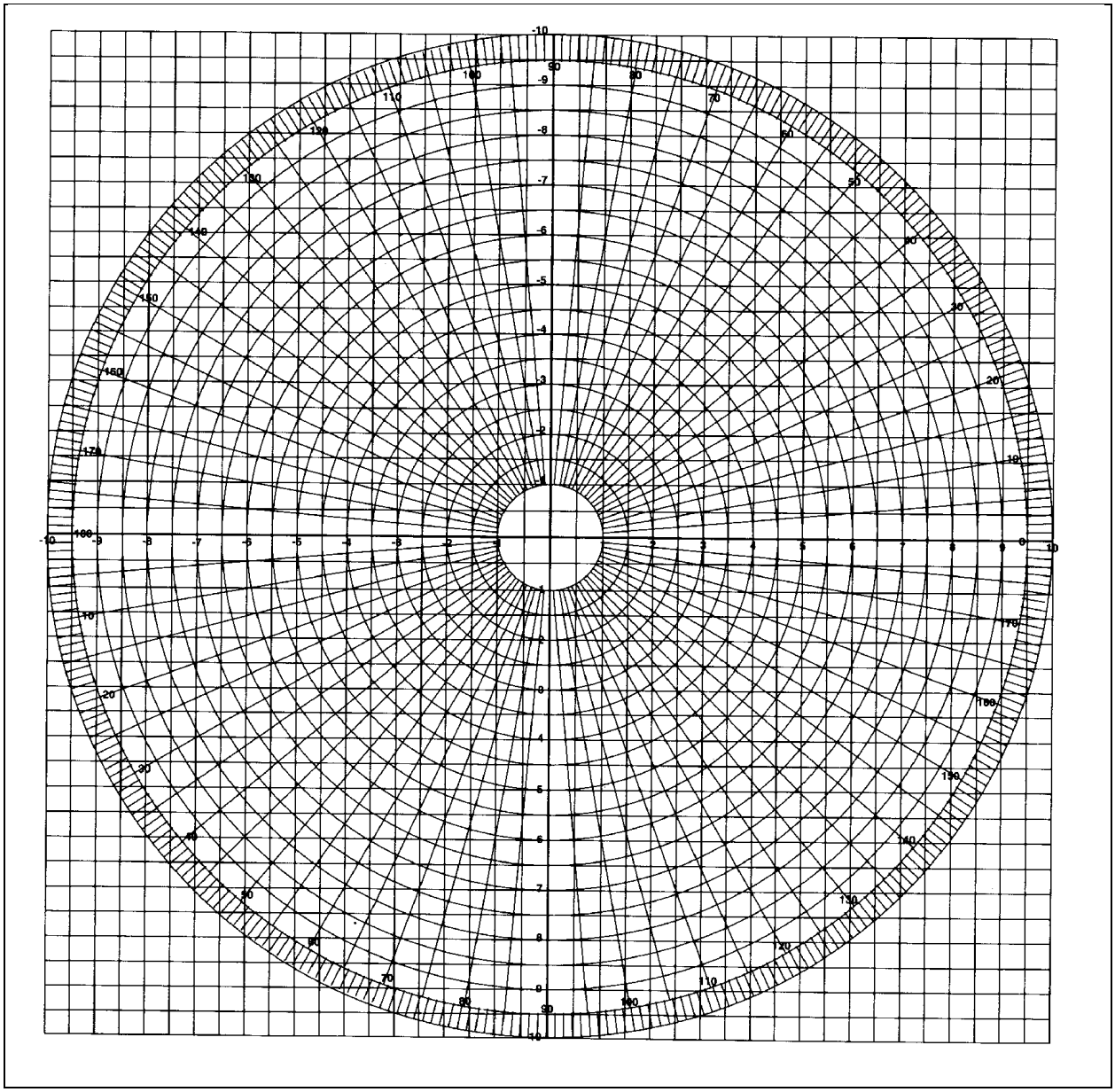
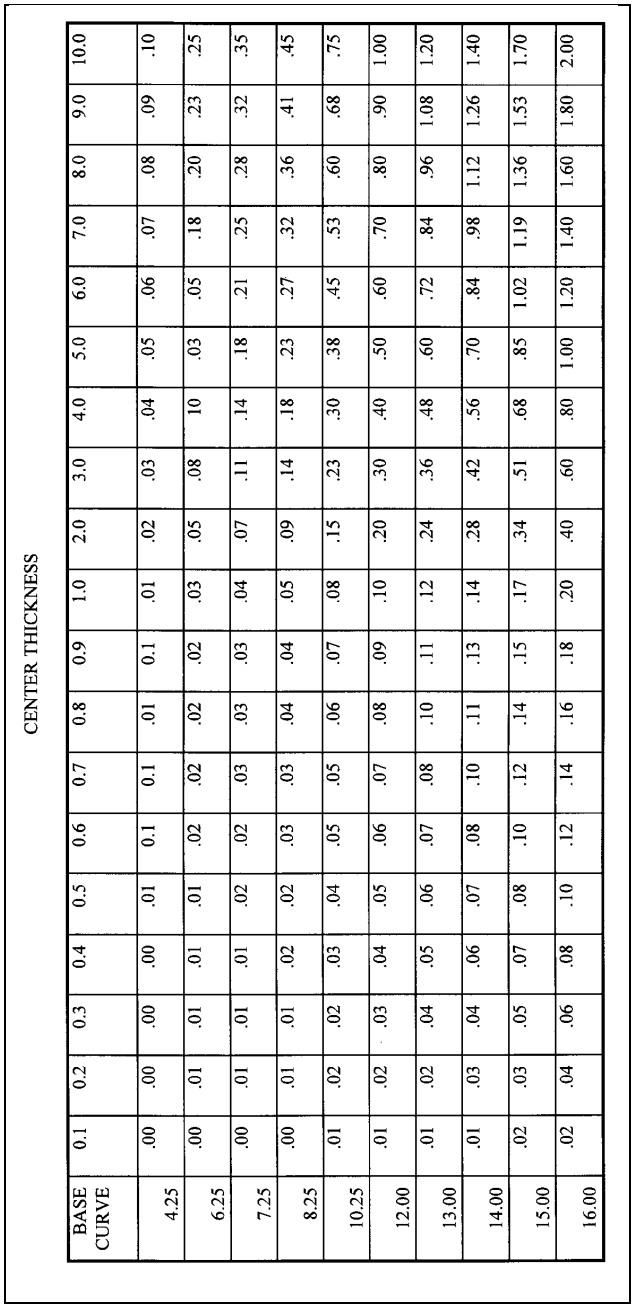


Figure B-1

Change in Concave Surface Power for Center Thickness



CENTER THICKNESS

BASE CURVE	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
4.25	.00	.00	.00	.00	.01	0.1	0.1	.01	0.1	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10
6.25	.00	.01	.01	.01	.01	.02	.02	.02	.02	.03	.05	.08	10	.03	.05	.18	.20	.23	.25
7.25	.00	.01	.01	.01	.02	.02	.03	.03	.03	.04	.07	.11	.14	.18	.21	.25	.28	.32	.35
8.25	.00	.01	.01	.02	.02	.03	.03	.04	.04	.05	.09	.14	.18	.23	.27	.32	.36	.41	.45
10.25	.01	.02	.02	.03	.04	.05	.05	.06	.07	.08	.15	.23	.30	.38	.45	.53	.60	.68	.75
12.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00
13.00	.01	.02	.04	.05	.06	.07	.08	.10	.11	.12	.24	.36	.48	.60	.72	.84	.96	1.08	1.20
14.00	.01	.03	.04	.06	.07	.08	.10	.11	.13	.14	.28	.42	.56	.70	.84	.98	1.12	1.26	1.40
15.00	.02	.03	.05	.07	.08	.10	.12	.14	.15	.17	.34	.51	.68	.85	1.02	1.19	1.36	1.53	1.70
16.00	.02	.04	.06	.08	.10	.12	.14	.16	.18	.20	.40	.60	.80	1.00	1.20	1.40	1.60	1.80	2.00

Figure B-2

APPENDIX C -

Supply List for Credit Card Purchases

SUPPLY LIST FOR CREDIT CARD PURCHASES Page ____ of ____

*APC: ____________ DOCX: ____________ Indicate whether Expendable or Nonexpendable

Item #	User Control # or Doc # for Nonexpendable Item	Qty	Item Cost	Extended Cost	Description	HR#	**Initials of the: AO	BO	HRH
			Subtotals						

Credit Card Holder (print) & Tel. # ____________ Credit Card Holder Signature ____________ Date ____________ PIN Number ____________

Figure C-1 (Front)

Supply List for Credit Card Purchases

CONTINUATION OF SUPPLY LIST FOR CREDIT CARD PUR Page of

*APC: ____________ DOCX: ____________ Indicate whether Expendable or Nonexpendable

Item #	User Control # or Doc # for Nonexpendable Item	Qty	Item Cost	Extended Cost	Description	HR#	**Initials of the: AO	BO	HRH
			TOTALS						

Initials of the Approving Official = AO, Initials of the Budget Official = BO and initials of the Hand Receipt Holder = HRH.

Transactions involving expendable and nonexpendable items are to be placed on separate FSH Forms 1135.
A user control number can be issued for transactions involving expandable items; however, the document number that the user lists at the top of the form will be the document number used to process this FSH Form 1135 into SAILS, providing the apc is the same for each transaction. A document number will be placed in the space for the user control number for each transaction involving NONEXPENDABLE items.
* = provided by Budget Analyst\Clerk note: Record vendor bids on a blank sheet of paper and attach to this 1135.

Figure C-1(Back)

Cardholder's Worksheet

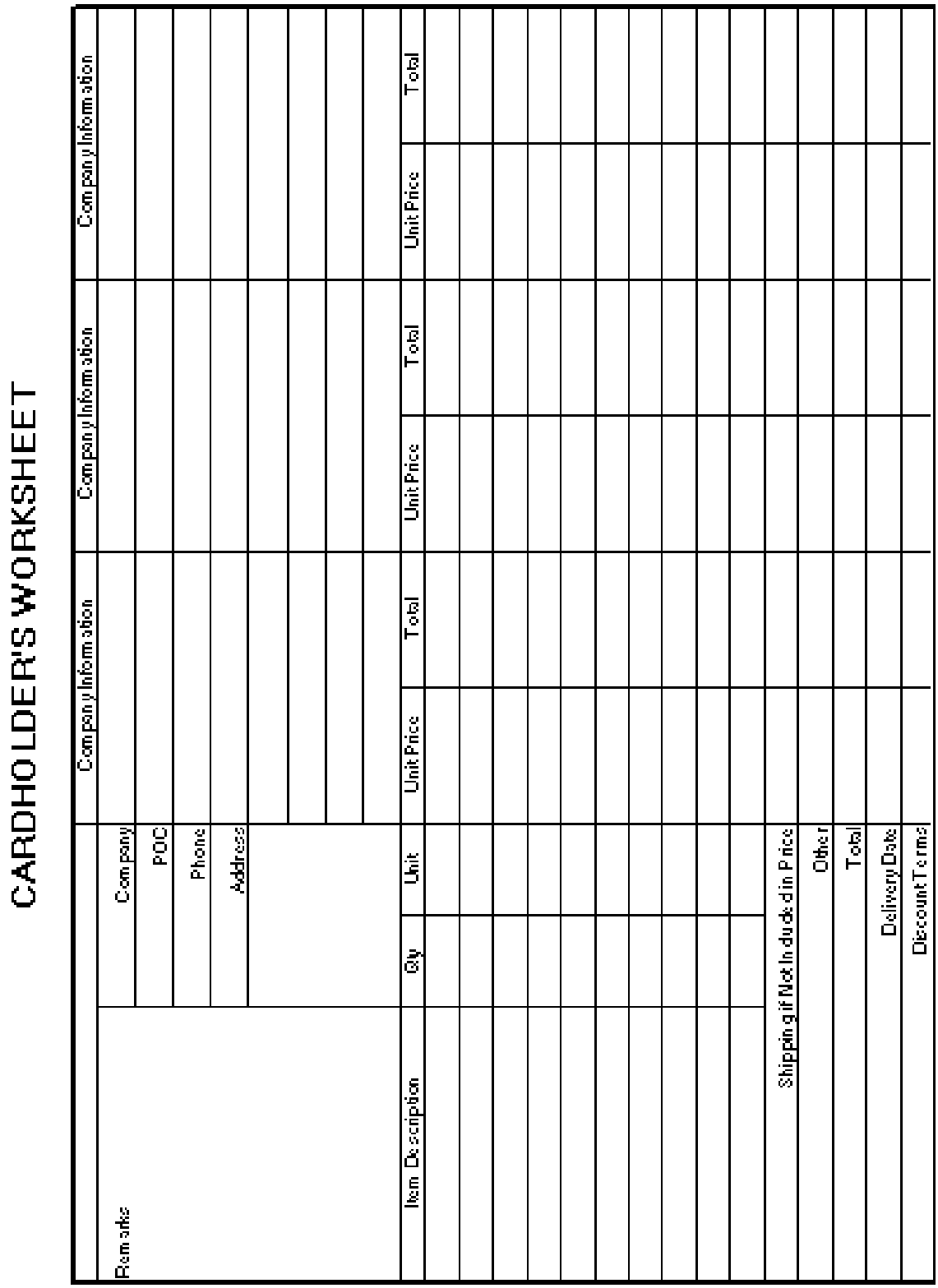


Figure C-2

IMPAC Card Purchase Register FY

IMPAC CARD PURCHASE REGISTER - FY

Date	Amount	Description	Balance After Purchase	Clearances	Goods Received	Property Book	Month/Year Billed	Notes

Figure C-3

GLOSSARY

Abbreviations

ACCP	The Army Correspondence Course Program
ANSI	American National Standards Institute
cm	centimeter
CONUS	continental United States
D(42E)	diopter
DOS	day of supply
ED(42E)	effective diameter
F	fahrenheit
Hz	Hertz
IARC	International Agency for Research on Cancer
IAW	in accordance with
IMSA	installation medical supply activity
METL	mission essential task list
MLBS	minimum lens blank size
mm	millimeter
MOPP	mission-oriented protective posture
MOS	military occupational specialty
MOSC	military occupational specialty code
MSDS	material safety data sheet
MTF	medical treatment facility
MTOE	modification table of organization and equipment
NBC	nuclear, biological, and chemical
NCO	noncommissioned officer

NTP	National Toxicology Program
OD(42E)	oculus dexter (right lens or eye)
OLD	operating level days
OS	oculus sinister (left lens or eye)
OSHA	Occupational Safety and Health Administration
OST	order and shipping time
PD(42E)	pupillary distance
PEL(42E)	permissible exposure limit
PMCS	preventive maintenance checks and services
psi	pounds per square inch
QDCP	quality demand in the control period
ROP	reorder point quantity
ROQ	requisitioning objective quantity
Rx	prescription/reparable exchange (depends on use)
SLD	safety level days
SMCT	soldier's manual of common tasks
SOP	standing operating procedures
SRTS	spectacle request transmittal system
SSA	supply support activity
TAMMIS	Theater Army Medical Management Information System
TDA	table of distribution and allowances
TLV	threshold limit value
USAEHA	US Army Environmental Hygiene Agency
UV	ultraviolet

REFERENCES

Required Publications

Required publications are sources that users must read in order to understand or to comply with this publication.

Army Regulations

AR 25-400-2	The Modern Army Recordkeeping System (MARKS) 26 February 1993
AR 25-50	Preparing and Managing Correspondence 21 November 1988
AR 25-55	The Department of the Army Freedom of Information Act Program 14 April 1997
AR 37-1	(SS/DFAS-In Reg 37-1, Sep 95. On-line fr home page www.ASAFM.ARMY.MIL-No hard copies available) Army Accounting and Fund Control 30 April 1991
AR 37-100	(SS/DAFAS-In Reg 37-1, Se 95. On-line fr home page www.ASAFM.ARMY.MIL-No hard copies available) Account/Code Structure 1 June 1994
AR 380-5	Department of the Army Information Security Program 25 February 1988
AR 40-61	Medical Logistics Policies and Procedures 25 January 1995
AR 40-63	Ophthalmic Services 1 January 1986

Department of Army Forms

DA FORM 1300-2	Computation Card
DA FORM 2717	Optical Laboratory Report

Department of Army Pamphlets

DA PAM 710-2-2	Supply Support Activity Supply System: Manual Procedures 30 September 1998

Navy Regulations

NAVMED 6810	Policies and Procedures for furnishing prescription eyewear to eligible beneficiaries Revision 01 JAN 86

Other Product Types

DD FORM 771	Eyewear Prescription
DEBLOCKER MANUAL	Operator's Manual for the Deblocker
LENS EDGER MANUAL	Operator's Manual for the Lens Edger
LENS GENERATOR MANUAL	Operator's Manual for the Lens Generator
LENS SURFACER MANUAL	Operator's Manual for the Automatic Lens Surfacer
LENSOMETER MANUAL	Operator's Manual for the Lensometer
MARKER/BLOCKER MANUAL	Operator's Manual for the Fabrication Marker/Blocker
SURFACE BLOCKER MANUAL	Operator's Manual for the Surface Blocker

TAMMIS USERS MANUAL	Theater Army Medical Management Information System (TAMMIS) User's Manual
TG 126	U.S. Army Environmental Hygiene Agency (Waste Disposal Instructions)

Related Publications

Related publications are sources of additional information. They are not required in order to understand this publication.

Army Regulations

AR 385-10	The Army Safety Program 23 May 1988
AR 40-61	Medical Logistics Policies and Procedures 25 January 1995
AR 40-63	Ophthalmic Services 1 January 1986
AR 702-18	Materiel Quality Control Storage Standards 24 February 1993
AR 710-2	Inventory Management Supply Policy Below the Wholesale Level 31 October 1997

Army Training and Evaluation Program

ARTEP 8-057-30-MTP	Mission Training Plan for the Medical Company, Main Support Battalion, Support Command, Heavy Division 29 September 1994
ARTEP 8-267-30-MTP	Mission Training Plan for the Medical Company, Main Support Battalion, Airborne, Air Assault, & Light Infantry Division 24 October 1996
ARTEP 8-437-30-MTP	Mission Training Plan for the Medical Company, Support Battalion, Heavy Separate Brigade/Separate Infantry Brigade, and Medical Troop, Support Squadron, Armored Cavalry Regiment 30 September 1997
ARTEP 8-456-MTP	Mission Training Plan for the Headquarters, Medical Battalion (Area Support) 14 April 2000

Department of Army Forms

DA FORM 1296	Stock Accounting Record
DA FORM 2028	Recommended Changes to Publications and Blank Forms

Department of Army Pamphlets

DA PAM 25-30	Consolidated Index of Army Publications and Blank Forms 1 April 1999
DA PAM 710-2-1	Using Unit Supply System (Manual Procedures) 31 December 1997

Field Manuals

FM 25-100	Training the Force 15 November 1988
FM 25-101	Battle Focused Training 30 September 1990
FM 8-11-2	System for Ophthalmic Dispensing 15 November 1983
FM 8-37	Optical Laboratory Specialist 30 August 1976

Other Product Types

29 CFR 1910.1200	Air Contaminants
AMDF	Army Master Data File
ANSI Z80 STANDARDS	American National Standard Institute Z80 Standards
DEBLOCKER MANUAL	Operator's Manual for the Deblocker
LENS EDGER MANUAL	Operator's Manual for the Lens Edger
LENS GENERATOR MANUAL	Operator's Manual for the Lens Generator
MARKER/BLOCKER MANUAL	Operator's Manual for the Fabrication Marker/Blocker
SRTS END USER GUIDE	End User's Guide for the Spectacle Request Transmittal System
SURFACE BLOCKER MANUAL	Operator's Manual for the Surface Blocker

Soldier Training Publications

STP 21-1-SMCT	Soldier's Manual of Common Tasks (Skill Level 1) 1 October 1994
STP 21-24-SMCT	Soldier's Manual of Common Tasks (Skill Levels 2-4) 1 October 1992

Supply Bulletins

SB 700-20	Army Adopted/Other Items Selected for Authorization/List of Reportable Items 1 June 1997